The Evolution of Emergency Medicine as a Medical Specialty in India: A Policy Analysis

by
Veena Sriram

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Abstract

The goal of this dissertation is to systematically explore the development of one medical specialty in India – Emergency Medicine (EM) – by examining the Medical Council of India policy to formally recognize EM as an academic specialty in 2009 through three phases of the policy cycle – political prioritization, policy formulation, and policy implementation. I also aim to contextualize the development of new medical specialties by analyzing the regulatory landscape in which specialties emerge, and by exploring the functioning of regulatory institutions through the lens of medical specialization. Finally, to uncover the hidden forces shaping the outcomes of this case, I conducted a power analysis to examine the sources and application of power as exercised by the various stakeholders involved. To conduct this research, I designed a single, holistic case study to capture the trajectory of emergency medicine in India from the late 1980s onwards. I utilized qualitative methods, and conducted 87 in-depth interviews, observed 6 meetings, and reviewed approximately 250 documents. I utilized a modified version of the 'Framework' method of qualitative analysis, and used both inductive and deductive approaches to coding. Broadly, my findings suggests that complex forces shaped the evolution of EM in India, driven by factors underpinning the globalization of biomedicine – socialization, legitimation, and market forces – and that EM was actively promoted by stakeholders from public and private sectors, supplemented by transnational partnerships. However, their efforts at specialty recognition were resisted by the arcane and fragmented regulatory environment of medical education in the country. EM policy also emerged largely in the absence of adequate deliberation on questions of equity. I conclude that future medical specialization efforts in India must engage with issues of health systems and population health in order to achieve a measure of equity in their implementation.

Committee of Thesis Readers: Dr. Sara Bennett (Primary Advisor), Dr. Randall Packard, Dr. Adnan Hyder, Dr. Joanna Cohen, Dr. Rama Baru, Dr. Caitlin Kennedy (alternate), Dr. Duff Gillespie (alternate)

Dissertation Thesis Committee: Dr. Sara Bennett (Primary Advisor), Dr. Randall Packard, Dr. Adnan Hyder, Dr. Asha George

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Table of Contents

List of Figures

List of Tables

List of Acronyms

AAPI	American Association of Physicians of Indian Origin
ACEP	American College of Emergency Physicians
AIIMS	All-India Institute of Medical Sciences
CDC	Centers for Disease Control and Prevention
CMC	Christian Medical College
DNB	Diplomate of the National Board
EM	Emergency Medicine
EMS	Emergency Medical Services
IFEM	International Federation of Emergency Medicine
IMA	Indian Medical Association
INDUS-EM	Indo-US Emergency and Trauma Collaborative
LMICs	Low- and middle-income countries
MCI	Medical Council of India
MoHFW	Ministry of Health and Family Welfare
NBE	National Board of Examinations
SEMI	Society for Emergency Medicine, India
U.K.	United Kingdom
U.S.	United States
WHO	World Health Organization

Chapter 1: Introduction and Methodology

Medical specialization is an understudied, yet growing aspect of health systems in low- and middle-income countries (World Health Organization, 2008). Specialization involves a 'segmentation of professional work', where professionals experience a growing consciousness that their profession should or will be subdivided by a particular expertise (Leeming, 2001). In low- and middle-income countries, a tension has emerged between the growing presence of medical specialists, and the necessity of health systems strengthening more broadly (World Health Organization, 2008). On the one hand, specialization has emerged as a dominant value in the medical profession in many countries, incentivizing students and doctors to specialize, and modifying patterns of service delivery (Frenk et al., 2010, O'Rourke and Hindle, 2001). On the other hand, specialization has resulted in a disproportionate focus on hospital-based specialized care, often at the expense of primary care approaches that can benefit the poor and disenfranchised (World Health Organization, 2008, Starfield et al., 2005).

In India, medical specialization is increasingly impacting the structure of service delivery and medical education within the health system (Kumar, 2015, Sood, 2015, Zachariah, 2012). The phenomenon has arguably been driven by underlying shifts in the health sector towards privatization and tertiary care (Baru, 2006). Indeed, the reorganization of health services in high-income countries has been noted as a major factor in the emergence of new medical specialties (Leeming, 2001). Since the mid-1980s, the for-profit private sector has significantly impacted the hospital sector in India through its

investments into tertiary hospitals in primarily urban settings, steadily increasing its share of hospitals and beds in the country (Economic and Political Weekly, 1985b, Baru, 2003, McKinsey & Company, 2012). These tertiary care hospitals primarily focus on specialist and super-specialist care, some driven by India's booming medical tourism industry (Deloitte, 2013 , Qadeer and Reddy, 2013, Zachariah, 2014). The establishment of tertiary care hospitals is not limited to the private sector; policies to expand centrally-supported public sector tertiary hospitals and medical colleges in all states have received attention from both major national political parties (Manjunatha and Chaturvedi, 2012, Ghosh, 2014). For example, in 2003, the Central Government embarked on an ambitious plan to establish new All-India Institutes of Medical Sciences across the country; to-date, six of the proposed 18 have been established (Ministry of Health and Family Welfare, 2015).

Tertiary care remains a small percentage of the total numbers of beds and institutions in the public and private sectors (Baru et al., 2010). However, the presence of tertiary hospitals fundamentally alters decision-making on the part of both student doctors and patients. For example, the establishment of these tertiary care centers have a direct impact on the career trajectories of medical students and junior doctors in India (Ruddock, 2015). Studies have found that the vast majority of Indian medical students wish to specialize in some form after their undergraduate medical education (Diwan et al., 2013, Subba et al., 2012, Rao et al., 2013). Furthermore, increasing investments in specialty hospitals, largely in the private sector, have given financial incentives to students to shift their career trajectories (Qadeer and Reddy, 2013). Finally, research has also shown that

patients in India, including those utilizing the public sector, exhibit a strong preference for specialist doctors (Rajasulochana et al., 2016).

Medical specialization has therefore become highly valued by the medical profession, and to some extent, the public (Mullan, 2006, Ruddock, 2015). However, the ways in which medical specialties emerge in India, and how those processes link with issues of health systems and equity, remains understudied. Historically, medical colleges in India served as the primary engines for specialty development (Mishra, 2013, Das, 2015). Exchange programs between high-income countries and India in the early to mid-twentieth century, and after the 1960s, the emergence of a widespread Indian diaspora of doctors, greatly facilitated the 'transfer' of specialized forms of medicine across borders (Mishra, 2013, Udani, 1988, Jones, 2015, Mudaliar Committee, 1962, Zachariah, 2014). However, specialization has largely remained an urban, private sector phenomenon in India, and has not sufficiently linked with aspects of the system accessed by poorer and/or rural sub-populations (Reddy, 2015, Patel, 2015, Baru, 2006, Zachariah, 2014).

Medical specialties in India develop in the context of India's complex medical education system, with multiple avenues for training new specialists in the public and private sectors. Uniquely, India has three independent streams for introducing and regulating training in medical specialties – the Medical Council of India (MCI), the National Board of Examinations, and the nine 'Institutes of National Importance', including the All-India Institute of Medical Sciences (AIIMS) (Ananthakrishnan et al., 2012, Sood, 2008). Outside these three streams exist a plethora of postgraduate training programs not

formally overseen by regulatory institutions, such as certifications, fellowships and Masters programs. MCI is often considered the most important of these regulatory institutions, given its primacy over medical colleges, and stakeholders seeking to establish a specialty in the country appear to most often seek formal recognition from the MCI. However, the institution has been mired in controversy over allegations of corruption for over two decades, and its decision making structures and processes have remained a 'black box', and difficult to decipher (Parliament of India, 2016, Baru, 2015).

Recent broad specialties that have emerged in India include Family Medicine, Infectious Diseases, Palliative Medicine and Emergency Medicine (Subhan and Jain, 2010, Pal et al., 2014, Rajagopal, 2016c). The available literature regarding the growth of these specialties, largely first-person accounts, describe an uneven journey in gaining the interest of MCI and other institutions, obtaining formal recognition from MCI, and following official recognition (Rajagopal, Pothiawala and Anantharaman, 2013, Pal et al.). Furthermore, the slow growth of training programs in several recent specialties signals deeper problems with the system of diffusion and regulation (Kumar, 2016, Rajagopal, 2015). These accounts also describe the formation, and in some cases eventual fragmentation, of professional societies, groups meant to serve as platforms for collective action for specialty stakeholders. International actors, from independent practitioners to professional associations, have also been described to play a major role in brokering knowledge between high-income countries and India (Mascarenhas, 2011, Pothiawala and Anantharaman, 2013). The constellation of actors, and their involvement in a largely unpredictable policy development process, suggests that power dynamics have an

important role in determining which specialties emerge in India, and how those specialties then develop over time.

Emergency Medicine (EM) is an example of a recent medical specialty that highlights the turbulent nature of specialization in India. Existing accounts suggest an expansive and fragmented network of stakeholders involved in promoting the field, including public and private sector medical colleges, private sector hospitals, and international stakeholders, including members from the Indian diaspora, from the U.S., U.K., and Australia (Arora, 2013, Pothiawala and Anantharaman, 2013). These stakeholders formed national and regional professional societies and advocated repeatedly with the MCI over a nine-year period for formal recognition of the field, which was ultimately obtained in 2009. Following recognition, EM has faced an uneven journey, including rising conflict within the stakeholder network, the initiation of training courses outside the formal medical education system, relatively slow diffusion of the course across medical colleges, and a largely urban, private sector orientation (Pothiawala and Anantharaman, 2013, Douglass et al., 2015, Cameron, 2015). The experience of EM appears to reflect deeper challenges in the system of postgraduate medical education, and the difficulties of integrating specialization into health systems, particularly in terms of access for the poor.

Goals and Objectives

Research on how, and why medical specialties develop in India is critically important, as it can contribute to a better understanding of how medical specialties can evolve in ways

that effectively contribute to improving health outcomes, and to strengthening health systems. The goal of this dissertation is to systematically explore the example of one specialty - EM – by examining the Medical Council of India policy to formally recognize EM as an academic specialty in 2009 through three phases of the policy cycle – political prioritization, policy formulation, and policy implementation. I also aim to contextualize the development of new medical specialties by analyzing the regulatory landscape in which specialties emerge, and by exploring the functioning of regulatory institutions through the lens of medical specialization. Finally, to uncover the hidden forces shaping the outcomes of this case, I conducted a power analysis to examine the sources and application of power as exercised by the various stakeholders involved. Taken together, this dissertation provides some of the first comprehensive evidence describing the evolution of a new medical specialty in India, and in doing so, allows us to begin to unpack the linkages between specialty development, health systems, and equity.

To achieve this goal, I divided the study into four research questions.

(1) What is the regulatory architecture of institutions involved postgraduate education in India?

In this research question, my objective is to analyze the regulatory architecture for postgraduate medical education in India, by exploring the institutions, functions, mechanisms, enforcement options and relationships involved in recognizing new medical specialties, and initiating courses in those new specialties. Further, I aim to examine the

architecture for developing policies to operationalize these courses, such as faculty criteria and course curricula. Finally, I aim to gather perspectives from respondents on the current gaps in the regulatory architecture, particularly in the context of linking postgraduate medical education and health systems strengthening.

(2) How and why did the issue of EM as a medical specialty gain political priority, particularly in the context of MCI?

The next research question focuses specifically on the case of emergency medicine, particularly the phenomenon of agenda setting or political prioritization for EM in India. Here, my objective is to explore how and why the concept of EM received attention in India in the late twentieth century. I also aim to examine the reasons why EM stakeholders prioritized the recognition of EM by MCI as a key policy objective, and the ways in which these stakeholders organized to achieve this objective. Finally, I seek to understand the implications of these advocacy efforts on the broader policy agenda of the EM stakeholder community.

(3) How was emergency medicine policy formulated by MCI, and how did these formulation processes impact implementation?

This research question explores the next stage of the policy cycle – formulation and implementation – by examining the ways in which emergency medicine was formulated by MCI, and the impact of these processes on implementation. Specifically, I aim to

delve into the rationale and processes for the formal recognition of EM within MCI, and the ways that MCI formulated policy to operationalize postgraduate training in the field. I also aim to explore the ways that EM has diffused across medical schools, and the experiences of medical colleges in implementing these programs. Finally, I seek to analyze whether we can explain implementation outcomes by understanding their connection to formulation.

(4) How did power dynamics influence and shape the development of EM in India?

The final research question will explore the underlying dynamics of power in this case, but analyzing the sources and applications of power in the development of EM as a medical specialty in India. Through this analysis, I aim to unpack the issue of how power shaped the outcomes in this case, and discuss how this analysis helps us understand the trajectory of EM as a medical specialty in India.

Literature Review

Emergency medicine as a specialty: Emergency medical care can be defined as care to stabilize patients who have a life-threatening or limb-threatening injury or illness (Razzak and Kellermann, 2002). Emergency care tackles a broad range of conditions across diseases and health conditions; therefore, strengthening emergency care requires a 'horizontal' approach, by progressively improving the overall health system (Hirshon et al., 2013). The 1960s saw the emergence of a distinct medical specialty in high-income countries focused on training doctors with skills to address acute and time-sensitive

conditions (Cameron, 2014, Curry, 2008). Prior to this, emergency departments in many high-income countries followed similar patterns to what is observed in LMICs today – challenges with human resources, infrastructure and service quality (Curry, 2008). In Australia and New Zealand, junior personnel with minimal training and oversight staffed the 'casualties', and a doctor's preference to work in emergency departments was perceived as a sign of failure in the medical profession (Curry, 2008). In the United States (U.S.), following World War II, patients began to increasingly present themselves at under-prepared emergency departments, due to the decline of family practices and increased urbanization and mobility (Rapp and Podgorny, 2005). Up until the 1960s, there were no dedicated EM staff in the U.S., with available doctors providing rotating coverage to emergency departments (Rapp and Podgorny, 2005).

Several factors help explain the emergence of EM in high-income countries, including the rise of hospital-based medicine following World War II, the advancement of medical technologies and treatments (such as cardiac defibrillators), improved transport options, and the growing occurrence of medical specialization (Cameron, 2014, Curry, 2008). Another set of related arguments for its rise in popularity include increasing levels of economic development, urbanization, and the demonstrated success of EM in some countries (Kirsch et al., 1997). Social and historical forces, such as international wars and the Civil Rights movement in the U.S. appear to have influenced the development of the specialty (Zink, 2006). For example, 'race' riots and civil unrest during the 1960s appear to have drawn attention to the poor state of emergency care, and the important role of emergency departments during moments of crisis (Zink, 2006). World War II, the Korean

War and the Vietnam War trained physicians and surgeons in reportedly highly functional systems of emergency medical services (EMS) and trauma care (compared to what was available in the U.S. at those time periods), lessons which were applied once these individuals returned to civilian life (Zink, 2006). In the U.K., concern over the poor quality of 'casualty' departments led to a series of important staffing changes, beginning in 1959 with the decision to have orthopedic surgeons run the departments (Sakr and Wardrope, 2000).

Building on these factors, groups of doctors in various countries began to organize through professional associations to accelerate the development of the specialty (Totten and Bellou, 2013). Table 1 provides an overview of some of the major milestones in the history of EM in high-income settings. In the U.S., the first full-time practices of EM began to appear in the early 1960s, followed by the establishment of the American College of Emergency Physicians (ACEP) in 1968 (Rapp and Podgorny, 2005). ACEP was critical in pursuing specialty status for the field, which ultimately occurred in 1979 (Rapp and Podgorny, 2005). In the UK, the Casualty Surgeons Association (which later merged into what became the Royal College of Emergency Medicine) was formed in 1967, following the recognition that a specialized set of skills in emergency care was necessary for optimal functioning of emergency departments (Sakr and Wardrope, 2000, Guly, 2005). In Australia, the founding of the Australasian College of Emergency Medicine in 1984 provided a space for interested individuals to build up EM as a specialty in the region, leading to the first exit exams for fellows in 1986 and official recognition in 1993.

The founding of the International Federation of Emergency Medicine (Medicine) in 1989 marked a milestone in the globalization of EM, particularly in the context of Anglophone countries. By 2010, EM was recognized as a specialty in 40 countries, with the process mostly occurring in the 2000s (O'Reilly et al., 2010). Despite this rapid growth, EM is still not a universal phenomenon; for example, only three-fifths of European Union countries had recognized EM as a specialty (Totten and Bellou, 2013).

The two dominant models of EM currently practiced internationally are the Anglo-American model and the Franco-German model. The Anglo-American model is anchored by emergency physicians working out of health facilities, and pre-hospital emergency care services, staffed by paramedics, who 'bring' the patient to the hospital (Totten and Bellou, 2013). This model tends to be more commonly utilized and adapted by countries establishing EM programs for the first time (Nowacki et al., 2013). In the Franco-German model, almost all care by emergency physicians is conducted pre-hospital, with more specialized care offered in hospitals (Totten and Bellou, 2013). A few countries have not adopted either model, and have developed their EM systems based primarily on local contexts and needs (Nowacki et al., 2013)

Table 1: Major milestones in the development of EM in high-income settings (Alagappan and Holliman, 2005)

	United States	United Kingdom	Australia	Canada	Hong Kong	Singapore
Recognized specialty	1973	1986	1981	1980	1983	1984
National organization	1968	1967	1981	1984	1985	1993
Academic society	1970	1989	1988	1988	1994	1993
National certification examination	1979	1983	1986	1985	1997	1994

Emergency medicine in LMICs: From the 1980s onwards, EM began to emerge in LMICs, a trend that appears to have accelerated from the 1990s (Doney et al., 2005, Alagappan et al., 2007, Alagappan and Holliman, 2005). Alagappan and Holliman (2005) and Thomas (2005) posit that the example set by the US and the UK in developing systems of emergency care facilitated interest in other countries; this interest was supplemented by increasing globalization, multiple international EM conferences, and changing patterns of health service delivery in LMICs. The Society for Academic Emergency Medicine in the US initiated an international section in 1991, and ACEP established their International Emergency Medicine section in 1998; these professional associations, along with IFEM and other groups, appear to have actively adopted the cause of promoting EM internationally (Kirsch et al., 1997).

Mexico was an early adopter following a major earthquake in 1985 that raised awareness of the need for a specialized cadre of physicians with disaster management and emergency care skills (Rapp and Podgorny, 2005). Other countries that initiated EM with

support from high-income country professional societies include Vietnam, Kosovo, Guyana, Papua New Guinea and India (O'Reilly et al., 2010, Arora, 2013, Khan and Rubin, 2003, Forget et al., 2013). Development partners have also occasionally promoted EM in certain LMICs. For example, AusAID supported Papua New Guinea in establishing EM, funding in-residence and visiting emergency physicians (Curry, 2008). Many of the programs in these countries, including Malaysia, Bosnia, Turkey and Brazil, are modeled after the Anglo-American model (Nowacki et al., 2013, Hisamuddin et al., 2007, Bellows et al., 2013). However, these curricula have been modified to suit local contexts, as observed in Turkey, Brazil and Costa Rica (Nowacki et al., 2013). In China and Armenia, training programs were designed with input from American professionals, but did not align with a specific model (Nowacki et al., 2013). Russia and Cameroon are examples of countries influenced by the Franco-German model of care (Nowacki et al., 2013, Sakr and Wardrope, 2000).

According to some stakeholders, EM appears to be a clear example of the role of globalization in facilitating the emergence of new scientific partnerships, given the role of high-income country stakeholders in developing training partnerships in LMICs, including India (Nowacki et al., 2013, Thomas, 2005, Pothiawala and Anantharaman, 2013). Over the past decade, there has been an increase in the number of institutional training partnerships between institutions in high-income countries and LMICs, resulting in residency-style programs, short-term courses, faculty development courses, certification courses, and disaster preparedness programs (Arnold and Corte, 2003, Nowacki et al., 2013). Alongside these training partnerships, international fellowships for

EM residents in US institutions has also risen steadily (Alagappan and Holliman, 2005). Some reports suggest that members of diasporic communities play a major role in organizing and conducting these programs in their countries of origin (Forget et al., 2013, Azazh, 2012). In India for example, several training programs have been specifically organized by an association of Indian-origin emergency physicians working to develop EM in India (Arora, 2013). Partnerships have also recently emerged between LMICs; for example, between Indian and Sri Lankan institutions (INDUS-EM, 2016).

Emergency medicine in India: Emergency care in India has largely been fragmented and of poor quality, with a lack of standardization in terms of who delivers care, their training and the infrastructure in which they work (Subhan and Jain, 2010, Garg, 2012, Roy et al., 2010). Indian models of emergency care appear to have been strongly influenced by colonial and post-colonial British models of care. The term 'casualty department', used widely in India to denote emergency departments, seems to have been first used at St. Bartholomew's Hospital in the U.K. in 1824 (Guly, 2005). Staffing patterns also appear similar to those in the U.K. in the 1950s, including residents of all specialties working in rotation and the role of off-site 'consultants' as the main supervisors of the department (Guly, 2005). Similar problems to those in India also existed in the U.K., including difficulty filling vacancies for casualty officer positions, limited support from other hospital departments, lack of supervision of junior personnel and nominal involvement of consultants (Guly, 2005).

The Medical Council of India (MCI) had recognized Accidental and Emergency Medicine as the 24th medical specialty at some point between 1971 and 1988 (Network of Emergency Physicians, 2010). However, courses in EM were not established following this, and after 2000, the specialty was excluded from subsequent editions of the MCI regulations (The Hindu, 2000). Despite its absence from the MCI regulations, EM as a specialty gained considerable ground in the 1990s, with the first EM national conference taking place in 1999 (Arora, 2013). The conference led to the creation of the Society for Emergency Medicine in India (Society of Emergency Medicine India), an association that has since played a major role in advocacy for the specialty (Arora, 2013). Stakeholders from high-income countries were also closely involved; the American Academy of Emergency Medicine in India and the Indo-US Society for Emergency Medicine have both played key roles in advocacy and training efforts (Arora, 2013). Since the late 1990s, academic and medical institutions from high-income countries have also collaborated with several private sector institutions to establish one- to three-year training programs, one of which allows for foreign credentialing of Indian-trained physicians (Pothiawala and Anantharaman, 2013, Douglass et al., 2015). Following a nine-year advocacy period, MCI once again formally recognized EM as a specialty status as an academic discipline on July 21, 2009 (O'Keefe K, 2012, Pothiawala and Anantharaman, 2013, Network of Emergency Physicians, 2009).

In the past two decades, EM has made considerable progress in India. Since the late 1990s, dozens of national and sub-national EM conferences have been held across the country. Following formal MCI recognition in 2009, 28 medical colleges, including two

Institutes of National Importance, have instituted Doctor of Medicine (M.D.) programs in EM, with 73 residency spots available nationally (Medical Council of India, Medical Council of India). The National Board of Examinations, a certifying body which awards 'Diplomate of National Board' degrees to those pursuing postgraduate qualifications for both MCI-recognized and hospital-based training programs, recognized EM as a specialty in 2013 (Arora, 2013, Sood, 2008). Beyond these courses, residency-style courses, often organized with the support of international stakeholders outside the formal regulatory system, continued to flourish (Douglass et al., 2015).

However, significant challenges remain in both teaching and practice. For example, despite permitting their initiation, MCI denied formal approval for several EM courses in medical colleges between 2014 and 2016, and further, came down strongly on a few 'non-recognized' EM courses in the private sector. MCI is yet to release a standardized curriculum, and furthermore, two separate stakeholder groups have been engaging in curriculum and standards development, creating two parallel streams of policy guidance (INDUS-EM, 2016). Emergency departments around the country continue to be staffed by medical students or junior medical officers, who typically rotate in and out with minimal training and weak supervision (Subhan and Jain, 2010). These issues are exacerbated in rural areas, raising questions about equity in access to services for low-resource households (Subhan and Jain, 2010). Most importantly, patients, particularly the poor, continue to receive sub-standard care, potentially resulting in negative health outcomes (Garg, 2012, Hayden, 2014).

Table 2: Major milestones in the development of emergency medicine in India

Year	Milestones
1971 – 1988	MCI recognizes Accident and Emergency Medicine as an academic specialty
1999	Society for Emergency Medicine, India is launched
2000	MCI removes Accident and Emergency Medicine from the list of approved specialties
2005	Indo-US Emergency and Trauma Collaborative is established
2005	First Masters of Emergency Medicine course offered at Malabar Institute of Medical Sciences (Kerala)
2009	MCI recognizes EM as an academic specialty
2013	NBE recognizes EM as an academic specialty
2014 – 2015	De-recognition of 15 Medical Council of India-permitted MD courses

The Medical Profession: The emergence of specialization in the medical profession is underpinned by theory pertaining to the origin and functioning of the professions more broadly. Professions have been defined as 'occupations based on advanced, or complex, or esoteric, or arcane knowledge' (Macdonald, 1995). Much of the theory pertaining to the professions stems from the 'prototypical' profession, medicine (Bucher and Strauss, 1961). The sociological approach to the professions evolved from an early 'functionalist' approach to more recent perspectives that engage with Marxist and Weberian notions of power and class (Moran and Wood, 1993, Macdonald, 1995).

Functionalist approaches: The functionalist approach implies that enforcement of a high ethical standard separates a profession (Moran and Wood, 1993, British Medical Journal, 1928). For example, the medical profession has a fundamental ethical code in the form of the Hippocratic Oath. Early theorists of the professions, such as Carr-Saunders and Wilson, posited that professions are a stabilizing influence on society, and due to their

character, are able to resist less ethical forces (Moran and Wood, 1993, British Medical Journal, 1928). Later, Parsons (1951), Goode (1957) and other theorists advanced the notion that 'traits', including altruistic orientations, particular knowledge or ethical codes, separate professions from other occupations. Professions could then be trusted to ensure a maintenance of standards and quality, and could organize licensing and certifications as an assurance to society that the individual is competent enough to practice the trade (Boulet and van Zanten, 2014).

However, by the 1970s, the functionalist approach became increasing criticized for ignoring fundamental social factors such as class and power. For example, critics argued that basing a profession on an ethical standard implies that the profession's judgment of itself is accurate, and that such conceptualizations of the profession did not adequately engage with the underlying financial motivations, or desire to limit entry into the profession as a means to increase its market value (Moran and Wood, 1993, Saks, 2010). The approach of using 'traits' was also considered inadequate, due the perception that these traits were steeped in ideology and 'mythology' (Macdonald, 1995, Johnson, 1972). Other criticisms came down to definitions and categorizations; for example, some argued that by simply adopting an ethical code, a multitude of occupations could be called professions (Moran and Wood, 1993).

Interactionist and occupational control approaches: From the 1970s, theorists began to move away from functionalist approaches to theories based primarily on power (Macdonald, 1995). Theories began to evolve in broadly two directions - a neo-Weberian

approach that engaged with ideas of occupational control and gaining professional power, and a neo-Marxist approach that addressed the relationship between producers and consumers, and the class structures that enable professionalism.

According to Macdonald (1995), Weber's ideas allowed for sociologists to engage with the professions in a new light, by examining the role of individuals in advancing their interests, the role of professions in exclusionary closure, and the seeking of rewards and power. Freidson (1970) is often considered a leading thinker in applying Weber to concepts of the professions. Freidson (1970) considered the role of professional power in medicine, and argued that professions exist in order to support accepted practitioners' 'own interests in restricting competition, raising salaries and increasing its control over health and health care'. Saks (2010) similarly advances a neo-Weberian understanding of the professions by defining them primarily in light of their exclusionary power in the marketplace, including through 'legally enshrined monopolies'.

Scholars engaging with Marxist theory on the other hand focused on the *process* of professionalization – the involvement of the state, and the relationship between producers and consumers (Macdonald, 1995). Marxist theory emphasizes the importance of acknowledging that 'state formation, polarization of social classes, monopolization of the means of production…are all processes in which the professions are bound up in' (Macdonald, 1995). Navarro (1988) for example argues that class structures play a fundamental role in shaping professions, and that the process of professionalization is often forged by elites. Marxist theory also engages with the 'proletarianization' of the

professions, and scholars within and beyond sociology have argued that the power of the medical profession is in decline (Moran and Wood, 1993, Timmermans and Oh, 2010). For example, some argue that the increasing corporatization and bureaucratization of health care has resulted in a stripping away of doctors' autonomy (Coburn, 2000). Others have blamed declining power on an increase in state intervention in health care, although such interventions are diverse and vary by country (Duran-Arenas and Kennedy, 1991, Jeffrey, 1977, Nigenda and Solorzano, 1997). Navarro (1988) argues against associating the professions and proletarianization, noting that professionals have largely maintained their elite standing.

Literature on the medical profession tends to come largely from high-income country contexts. The few studies that have examined power and the medical profession in LMICs highlight variations on the themes experienced in high-income countries – the role of associations, declining power and autonomy, and increasing interference from the state and the corporate sector (Sheikh and Porter, 2011, Jeffrey, 1977, Nigenda and Solorzano, 1997).

Specialization: A branch of theories around the professions focuses on the segmentation of work within the profession, or specialization (Bucher and Strauss, 1961, Döhler, 1992). Specialization theory builds on ideas of occupational control, incorporating themes of self-regulation and power in understanding how and why specialties come to exist. In their landmark work, Bucher and Strauss (1961) examined intra-professional relationships, and more specifically, 'segmentation of professional work. They argued

that a professional body is comprised of groupings or 'segments' based upon mission, methodologies, clients, and interests, and posited that medical specialties are prominent segments, subject to their own subsequent segmentation (Bucher and Strauss, 1961). Döhler (1992) contextualized this theory by comparing the evolution of medical specialties in Germany, the United States, and the United Kingdom, finding that specialization leads to emergence of different intra-professional interests and conflicts depending on the regulatory environment. Further, Leeming (2001) noted that specialization emerges differently across professions; for example, the legal field does not have the sharp distinctions observable in medicine.

Rosen (1944) offered one of the earliest discussions of the contextual factors underlying medical specialization. As he states, "…a study of specialization in medicine is not an investigation of a narrow, circumscribed field, but rather of the many purposes and influences that move men to act" (Rosen, 1944). Rosen (1944) highlighted two factors in particular that led to the development of medical specialties: scientific and technological advances, such as new instruments or discoveries in localized pathology, and social and economic influences, such as urbanization (Rosen, 1944). Stevens (1966) discussed the role of social forces in the rise of medical specialization, such as the impact of World War I on the development of specialties such as psychiatry, orthopedics and plastic and thoracic surgery in the U.K. Stevens (1971) also highlighted the context and country-specific nature of the development of medical specialization, but called attention to international influences on medical specialization in the U.S. in the nineteenth century, specifically as a result of American medical professionals training in Germany. Building

on Döhler's earlier work, Weisz (2003) provides a comparative history of medical specialization across France, Germany, the U.S. and the U.K, and extends Stevens' arguments by suggesting that although the development of specialization was largely driven by national factors, international linkages did facilitate a standardization of medical practice in those specialties (Weisz, 2003).

Leeming (2001) provides a concise summary of contextual factors that have been identified in the literature as influential in the formation of specialties. These factors include:

- *Conceptual and/or technological innovation* – As changes occur in the field's conception of pathology or disease etiology, or in available technology, professionals might choose to narrow their focus on specific clinical activities.
- *Intra-professional competition* – Competition within a field might serve as an incentive to 'monopolize' a particular area of the specialty.
- *Social and political influences* – Social and political contexts are crucial to the development of specialties. For example, urbanization has long been considered a key force in specialization given crowded labor markets in major American and European cities. As another example, the demand for rehabilitative services in the U.S. increased dramatically as wounded soldiers who fought in World War I began to return home.
- *Structural and organization aspects of health delivery system* – The manner in which health services are delivered factor into how physicians organize themselves within the system.

Theory around specialization appears to draw exclusively from high-income country contexts (Weisz, 2003). Discussions around specialization development in LMICs tend to be narrative accounts of how specific specialties have developed within a country, rather than theory-generating accounts from within a country, or across LMICs.

Professional associations: Groups of members of particular professions organize into what are known as professional associations, voluntary organizations that are meant to influence public policy, provide technical expertise, and promote their professions' purported interests (Gosnell and Schmidt, 1935, Merton, 1958). Merton (1958) defines professional associations as organizations comprised of 'practitioners who judge one another as professionally competent, and who have banded together to perform social functions which they cannot perform in their separate capacity as individuals.' In theory, professional associations are seen to have functions that focus on individual practitioners, the profession as a whole, and society at large (Merton, 1958). In practice, a tension has emerged between an association's ability to look out for the sometimes mutually exclusive interests of the profession and those of the society at large (Brody, 2010, Blackmer, 2007). For example, professional medical organizations in the U.S. have lobbied strongly against national health insurance, despite such policies being perceived by many as beneficial to the public (Stevens, 2001).

The type of roles undertaken by a professional association depend in part on the regulatory context in which the association functions (Greenwood et al., 2002). For

example, professional associations have sometimes taken on highly self-regulatory roles for their professions, most notably in the cases of the Royal Colleges in the UK (Ham and Alberti, 2002). Greenwood et al. (2002) argues that professional associations often play important roles in 'theorization' of their fields, including reconstituting professional identities during periods of change and regulatory uncertainty.

The Medical Profession in India: Biomedicine, or allopathic, medicine emerged in India alongside European colonial rule (Duggal, 2001, Rao, 1968). The East India Company similarly brought in doctors when trade was established between India and Britain in the 1600s, although company officials did rely on traditional medicine (Jeffrey, 1979). By the 19th century, attitudes had changed, and allopathic medicine began to dominate government policy (Jeffrey, 1979). Hospitals for the public, set up by the British, began to appear in the early 19th century in major towns of the provinces. This expansion became more rapid after 1880, when further decentralization of authority took place with the establishment of municipalities and district boards (Duggal, 2001). However, a bifurcation began to emerge, with curative care concentrated in urban settings, and rural areas being the focus of more preventative health programs (Duggal, 2001).

The first medical colleges in India were established in Chennai and Kolkata in 1835, followed by Mumbai in 1843 (Rao, 1968, Mishra, 2013). By 1942, there were approximately 15.87 doctors per 100,000 population, the large majority of whom (73%), worked in the private sector (Duggal, 2001). Around the same time, roughly 47,000 traditional medicine practitioners were also in practice (Duggal, 2001).

The transition from British rule to independence led to a reorientation of some aspects of the health system (Supe, 2016). The Bhore Committee, comprised of well-known public health practitioners such as J.B. Grant, was appointed by the Government to examine and suggest improvements to the Indian public health system (Rao et al., 2011, Government of India, 1946). One of their recommendations, which was accepted by the Government, was to abolish the system of licentiates and only allow one form of allopathic medicine – a doctor with a 5-year MBBS degree (Rao et al., 2011, Maru, 1985). Furthermore, post-Independence leaders intertwined biomedicine and modernity, deemphasizing the government's role in traditional systems of medicine (Prasad, 2007). These decisions had two main implications – the dominance of MBBS doctors as the sole 'official' practitioners of allopathic medicine, and the carving out of a bigger role for the central government on matters concerning medical education (Maru, 1985, Rao et al., 2011, Prasad, 2007). The result was a considerable increase in the numbers of medical colleges, with a growing emphasis on post-graduate education (Mishra, 2013). The post-independence era also led to a considerable growth in the role of the state in matters of the medical profession (Jeffrey, 1977).

Medical professional associations in India: Medical professional associations in India exercise power through their influence over health policy development (Sheikh and Porter, 2011, Duggal, 2001, Baru, 2013). The first national-level association, the Indian Medical Association (IMA), formed in 1928, was an early opponent of the proposed bill to establish an Indian Medical Council (Jeffrey, 1979). This first act of political lobbying

began what appears to be a tradition in India of voluntary medical associations exerting power; later protests however appear to have been driven primarily by protecting the interests of the profession, over societal or public needs (Mazumdar, 2015). In the 1960s, the IMA and other physician associations lobbied against the formation of a short term course to train medical assistants (with the intention of turning these assistants into doctors after five years at a Primary Health Center) (Duggal, 2001). In the 2000s, doctors used political influence to oppose stronger medical regulation through the Clinical Establishments Act (Sheikh and Porter, 2011). The IMA also opposed the Consumer Protection Act on the premise that the Act grants considerable legal power to clients at the expense of doctors (Peters and Muraleedharan, 2008). Between 2010 and 2012, the IMA successfully lobbied against the reconfiguration of the health professional councils, including the MCI (Bhaumik, 2012). More recently, in 2016, the IMA lobbied strongly against the establishment of a National Medical Commission that would restructure the regulation of medical education, and the profession more broadly (Press Trust of India, 2016a).

The IMA, while the largest professional association for doctors, represents only one facet of medical associations. Professional associations exist across levels of seniority (for example, students and junior doctors) to across a wide range of specialties and sub-specialties. Some professional societies, such as the Indian Academy of Pediatrics, and the Federation of Obstetric and Gynecological Societies of India, have previously worked on public sector programs (Evans et al., 2009, Kamath, 2015). However, limited research

has been done on the internal dynamics and role of specialist associations in policymaking in India.

Professional associations in India are also closely networked with international associations; in some cases, Indian professional associations have acquired considerable power on the international stage. In a controversial case, the erstwhile President of MCI, Ketan Desai, who had been at the center of numerous corruption scandals, was nominated to serve as the President of the World Medical Assembly (Pandya et al., 2016).

Medical Council of India: From the 1830s, the provincial governments administered medical colleges, with the exception of a handful of medical colleges that were run by municipalities, private actors, and universities. From 1892, the General Medical Council (GMC) in London began recognizing degrees awarded by Indian universities (Jeffrey, 1979). However, the GMC did not insist on inspections until the early 1920s, largely due to the increasing concern that Indian medical colleges were not sufficiently prioritizing midwifery training. In 1927, the GMC insisted upon a full-time inspector, and for the next few years, the issue raised considerable tension amongst the Government of India, Provincial Governments, the GMC and Indian practitioners. A proposed Medical Council of India (MCI), first suggested in 1882, was seen as a compromise, allowing for control from New Delhi, rather than London. The proposed MCI was initially opposed by the IMA and many nationalist advocates on the grounds that the institution would be subservient to GMC, and due to the fact that it would prioritize equivalence with British standards of training, rather than a focus on Indian requirements. The Government

sidestepped this criticism and passed the Indian Medical Council Act in 1933. Since its initiation in 1934, the MCI has maintained largely the same functions since its inception, as a statutory organization focused on ensuring uniform education across medical education institutes, granting recognition to medical degrees offered in India and in other countries and maintaining a register of all qualified medical doctors in the country (Rao et al., 2011, Jaggi, 2000). However, despite certain changes in policy direction following independence, the current pedagogy and curriculum of medical colleges had arguably remained similar to pre-independence medical colleges in India (Supe, 2016).

Specialization in India: The post-colonial government in India placed a strong emphasis on specialization, resulting in numerous institutes and programs of post-graduate education (Jeffrey, 1988). Some of these institutes became formally known as Institutes of National Importance, and were allowed to operate independently of the formal regulatory system. Until the 1970s, Indian doctors primarily supplemented their postgraduate training with formal specialist qualifications from the UK and the United States; as a result, India did not have a clear system of standardization for postgraduate degrees (Jeffrey, 1988). In the 1970s, the UK revoked its recognition of Indian degrees, and the Indian government followed suit by derecognizing UK degrees in India (Economic and Political Weekly, 1975). To compensate, the Government established an equivalent system of specialist training through the National Academy of Medical Sciences, termed the National Board of Examinations (Economic and Political Weekly, 1975). However, the MCI continued to offer postgraduate training in medical colleges, and further, entered into a contentious relationship with the National Board over their

equivalence (Ananthakrishnan, 2010). Beyond these two streams, the Institutes of National Importance continued to develop and implement specialist training programs, and further, a small cottage industry of post-graduate residency-style training programs in the private sector is growing across the country, largely considered outside the purview of the regulatory system (Douglass et al., 2015). The growth of these courses in the private sector is a reflection of the major role of the private sector in specialization, a phenomenon that gained considerable momentum from the 1980s onwards due to economic liberalization of the health sector (Zachariah, 2014).

The Central Government has periodically engaged in issues pertaining to the process of specialization, most notably through the expert committees commissioned to share recommendations on improvements to medical education and the health system more broadly (Bhore Committee, 1946, Mudaliar Committee, 1962, Shrivastava Committee, 1975, High Powered Medical Education Committee, 2010). Table 3 outlines the key highlights and recommendations pertaining to postgraduate medical education in the reports produced by these committees. The Ministry has also engaged issues of specialization through the National Health Policy process, most notably through their advocacy for a Family Medicine course (Ministry of Health and Family Welfare, 2002). Beyond these instances, the erstwhile Planning Commission has also occasionally discussed the broader issues of specialists in India, including the need for specialists in particular fields, and the need to address mal-distribution in the country.

Table 3: Main conclusions and recommendations on postgraduate medical education from Government-appointed health committees (1946-2016)

Committee	Year	Major Points and Recommendations
Bhore Committee	1946	- Noted the lack of coordination of postgraduate education within Universities (except Madras Province) - Discussed lacunae in faculty development - Institute a 'Central Committee for Postgraduate Medical Education' for postgraduate medical education - Support exchange programs with the U.S., and Great Britain - Increase number of specialists in OB/GYN, pediatrics, malariology, leprosy, mental health - Develop a range of postgraduate institutes, and share costs between the center and the provinces
Mudaliar Committee	1962	- Noted the lack of postgraduate medical institutes in the country - Discussed progress in some areas, such as mental health and preventative and social medicine - Institute a 'Central Committee for Postgraduate Medical Education' - Post-graduate medical education should be the responsibility of the center - Ensure self-sustainability in the field of specialization and post-graduate medical education
Shrivastava Committee	1975	- Discussed increasing trend towards specialization amongst medical students - Recognition that medical education has become a 'no man's land' between the center and the state - Need to evolve systems and processes to engage with issues of educational reform - Institute a 'Medical and Health Education Commission' to ensure comprehensive reform of medical education in India

High Powered Medical Education Committee Report	2010	- Discusses serious lacunae in postgraduate medical education in India - Suggested the formation of an autonomous 'apex' body, the Postgraduate Medical Education and Training Board of India
NITI Aayog Committee on the Reform of the Indian Medical Council Act 1956	2016	- Discussed the key findings of the Parliamentary Standing Committee Report on the functioning of MCI - Calls for the formation of independent and autonomous Boards for four aspects of medical education, including postgraduate medical education; the work of these Boards will be broadly coordinated by a National Medical Commission

Major challenges exist in the regulation of postgraduate medical education in India, many of which were clearly outlined in the 2016 Parliamentary Standing Committee report on the functioning of MCI (Sood, 2008, Ananthakrishnan et al., 2012). The multiple systems of education have led to considerable confusion and antagonism between the two primary regulators – MCI and NBE (Parliament of India, 2016, High Powered Medical Education Committee, 2010). The current system lacks a single point of standardization for curricula and other educational policies, such as the Board system in the U.S. or the Royal Colleges in the U.K (Parliament of India, 2016). Furthermore, as observed in Table 4, courses may exist outside the formal regulatory system, complicating efforts to accredit and standardize postgraduate training in those fields. In developing new specialties, available reports highlight considerable challenges in gaining the interest of policymakers, and following official recognition by MCI, challenges in policy implementation (Kumar, 2016). Finally, as described in Table 4, the expansion of residencies in new medical specialties remains distinctively slow in the MCI system; for example, despite being a recognized specialty since 1983, there is only one MD course in Family Medicine in all of India at the moment; there are however, over 800 residencies in the NBE system (Medical Council of India, Ananthakrishnan et al., 2012).

Table 4: Broad medical specialization in India – 1980 onwards

Specialty	Degree program	Year of recognition	Available residencies
Family Medicine	M.D.	1983	- One MD program (two residencies) - ~60 NBE courses (180 residencies)
Emergency Medicine	M.D.	2009	- 28 MCI-approved M.D. programs (73 residencies) - 20 NBE courses (66 residencies) - Course offered by Apollo Hospitals and Royal College of Emergency Medicine - Masters of Emergency Medicine course – George Washington University and 9 private hospitals - Masters of Emergency Medicine course (SEMI and 41 private hospitals)
Infectious Diseases	M.D. (changed to super-specialty in 2010)	2009	- Two Fellow of National Board courses
Palliative Medicine	M.D.	2010	- 1 MCI-approved M.D. program (Medical Council of India).

(Source: MCI, Personal Communication with A. Ghafur and R. Kumar, Pothiawala and Anantharaman 2013)

Methodology

To conduct my research, I designed a qualitative case study to capture the trajectory of emergency medicine in India from the late 1980s onwards, and utilized in-depth interviews, non-participant observation and document review. Case study methodology is an appropriate approach to gaining rich data on the policymaking process, as the method is particularly useful for understanding contemporary, complex social phenomena in real-life contexts (Yin, 2009, Walt et al., 2008). Further, case study research is best suited for research topics where the boundaries between the phenomenon in question and the

context are not clearly separated; given the primacy of context in policy development, case studies appear to lend themselves to an analysis of policy.

Case selection: An explanatory, single–case (holistic) design was utilized (Yin, 2009). An explanatory design seeks to understand how and why a specific phenomenon occurred; in other words, how do we explain the observed outcome? The case focused on the phenomenon of EM gaining status as an academic specialty at the national-level in India, and then explore its implementation at the academic institution- and facility-level. The boundaries of the case are as follows – the geographic scope of the case focuses on national-level policymaking in India, with an exploration of its implementation at a local level; the timeframe focuses on events leading up to the recognition of EM as a specialty in 2009, and on its implementation until the end of data collection in January 2016.

The phenomenon of EM gaining status as an academic specialty was chosen as a representative or typical case of the emergence of 'new' or emerging specialties in India (Yin, 2009). Specifically, EM gained prominence in the past decade, involved high-income country actors, faced resistance in gaining recognition and faces implementation challenges, themes identified in existing literature on recent medical specialties in India. Representative or typical cases are chosen due to the fact that they depict the circumstances and conditions of commonplace situations (Yin, 2009). Although this study was designed as a single-case, less formal comparative methods were utilized in order to illuminate patterns and divergences. For example, I conducted interviews with

key stakeholders from three emerging specialties, and also consulted available literature on specialties such as infectious disease, geriatrics and family medicine.

Data collection: This case study was conducted utilizing qualitative methods. Qualitative methods are typically appropriate in answering questions where we seek participants' understanding of an event or phenomenon, the context in which participants act, the process by which actions take place, and their intended and unintended consequences (Maxwell, 2005). Qualitative methodology also closely aligns with the constructivist philosophical approach taken in this study. I used three sources of data – documents, interviews, and non-participant observation. Each of the data collection methods linked closely with the stated research objectives, and their sampling and implementation varied according to each objective. Further, Maxwell (2005) argues for the use of triangulation of data sources and methods as a means to enhance credibility of the study findings.

I began collecting documents in October 2014. I received formal ethics approval from the Institutional Review Board (Hayashi et al.) at the Johns Hopkins Bloomberg School of Public Health (JHSPH) to conduct the study in January 2015 (IRB No. 00005860). I formally began data collection in March 2015 with pre-testing my questionnaire with five interviews (informing them that the study had been approved by only one IRB). I applied for ethical clearance from the Ethics Committee constituted by the Centre of Social Medicine and Community Health at Jawaharlal Nehru University, New Delhi, India in March 2015. The Committee reviewed the protocols and endorsed the decision of the JHSPH IRB in April 2015. Following formal clearance from both committees, I began

data collection in May 2015 through phone and Skype interviews. From June 2015 to December 2015, I was based in India and conducted my interviews and observation. I conducted my final interviews in January 2016.

Document review: Documentation is a key source of data for case studies (Yin, 2014). Health policy analyses often rely upon documents to provide key information on policy, such as the actors involved, timelines and strategies at various stages of the policy process (Erasmus and Gilson, 2008). From a methods standpoint, documentation is typically an unobtrusive form of data collection for researchers, so far as proper permissions are granted (Creswell, 2009). Further, document review is useful for examining power, as the use of language in documents is linked to power relations and the exercise of power (Erasmus and Gilson, 2008). For example, documents could reveal non-compliance with a policy, strategies to promote a policy and potential disputes that arose during the policy process, all of which provides information on power relations amongst actors (Erasmus and Gilson, 2008). Further, the language or discourse used in a document could signal how actors view their own or others relative empowerment or disempowerment; for example, the language in a document might suggest that a particular stakeholder views themselves as highly motivated, while portraying counterparts or colleagues as problematic (Erasmus and Gilson, 2008).

The following strategies were utilized to identify documents for the study (Creswell, 2009, Yin, 2014):

1. *Internet-based searching:* I reviewed available content on Internet platforms, such as the MCI website (http://mciindia.org/), the former Emergency Medicine in India website (emergencymedicine.in – now the official SEMI website), and the INDUS-EM website (http://www.indusem.org/).
2. *Media reports:* I searched for articles from the following Indian daily newspaper and weekly/biweekly magazines – The Hindu, Outlook, Times of India, Hindustan Times, Frontline, India Today.
3. *Snowball approach:* During the course of the research process, I routinely noted documents that were referred to by participants (for example, strategy papers, meeting agendas, etc.) and requested permission for copies.
4. *Scientific literature:* I supplemented these documents with articles pertaining to EM in India that were published during data collection and analysis.
5. *Archival research:* To understand the historical context of medical education and emergency care in India, I conducted archival research at the National Archives in New Delhi, and the Tamil Nadu State Archives in Chennai.

Yin (2014) suggests 'triaging' materials based on their centrality to the research questions. In this study, I identified inclusion criteria for the documents based on their relevance to emergency care, postgraduate medical education and the research questions. Using a case study database, documents were categorized in the following manner: -

Document Title	**Date**	**Authors**	**Format**	**Source**	**Key Words**	**Research Question**	**Comments**

In-depth interviews (IDIs): Interviews are a commonly used tool in qualitative inquiry, including in case study research (Creswell, 2009, Yin, 2014). Qualitative interviews are useful for understanding respondent perspectives, gathering historical background and to control the line of questioning (Creswell, 2009). In health policy analyses, interviews are important tools to allow participants to discuss their role in the policy process, their relationship with other actors, and their opinions on how the policy was implemented (Erasmus and Gilson, 2008). Erasmus and Gilson (2008) highlight that this is an important way to gain information on the sources and forms of power in the process.

To gain more insight on interview techniques, I drew upon methodological texts pertaining to in-depth interviews, including semi-structured interviewing and elite interviewing (Bernard, 2006, Harvey, 2011, Peabody et al., 1990, Mack et al., 2005). Semi-structured interviewing is useful in contexts where the interviewer maintains some discretion to follow leads in the interview process, but still controls the overall direction of the interview (Bernard, 2006). This technique allowed for flexibility in adapting the questions to the interviewee's specific background and knowledge of the case. Semi-structured interviewing is also useful when conducting elite interviewing, interviews with 'high-level bureaucrats and elite members of a community – people who are accustomed to efficient use of their time' (Bernard, 2006). Elite interviewing has been previously described as blending art and science, requiring robust methodologies, but necessitating flexibility and good judgment in appropriately dealing with respondents (Peabody et al., 1990). However, most methodological texts pertaining to elite interviewing focus on

high-income countries, and do not adequately address the further complexities that exist in LMICs (Rivera et al., 2002).

Based on my literature review and understanding of the case, I sought to interview stakeholders in the following categories:

1. Indian stakeholders involved in early efforts to promote EM in India
2. International stakeholders involved in early efforts to promote EM in India
3. Regulatory or government institutions involved in postgraduate medical education
4. Indian and international stakeholders involved in developing and implementing EM training programs in India
5. Students and graduates of EM training programs

Interview guide development: In consultation with my primary advisor, I developed five draft semi-structured interview guides for particular groups – Indian EM stakeholders, International EM stakeholders, Government and regulatory stakeholders, training program managers, and students and graduates. Building from the research questions, I utilized theories and frameworks proposed in my research protocol, along with my a priori knowledge of EM from the literature review, to develop the questions. After receiving ethics approval from JHSPH in January 2015, I tested the questionnaire with five interviewees in March 2017. I administered verbal consent, and informed each of these interviewees that I was yet to receive clearance from JNU and that they could choose to not proceed with the interview; each of them expressed their understanding and

approval. Based on the experience of conducting these interviews, I revised the interview guides (Annex 1).

Sampling: Purposeful sampling is typically utilized in qualitative studies, due to the goal of gathering information-rich cases of primary importance to the research questions (Patton, 1990). For the IDIs, I used a combination of these approaches:

1. *Maximum variation sampling:* This form of sampling is utilized when understanding central themes that are apparent from a wide range of participants. The fundamental premise is that common themes that emerge from a diverse group of actors capture a shared or common experience or theme. This form of sampling is also useful for understanding varied experiences in the sample. For the purposes of selecting both IDI informants and observation settings (particularly in the case of academic institutions and facilities). I identified the following criteria for the sample – nature of the stakeholder, country of residence, nature of institution, professional association, and years of involvement in EM in India.
2. *Snowball or chain sampling:* This type of sampling is useful for identifying 'information-rich key informants', who are knowledgeable about and/or important to the research questions (Patton, 1990). Given the closed nature of policymaking in LMICs, snowball sampling is a useful mechanism to identify potential interview subjects.

Sampling approach: Sample sizes are typically not provided in qualitative research; the aim of purposeful sampling is to reach redundancy in terms of information gathered from informants (Patton, 1990). From October 2014 to February 2015, I conducted initial in-person discussions with key informants involved in EM in India to determine my initial sampling list. I undertook the following steps:

1. I reviewed documents, including scientific literature, news reports, and blogs, to determine key stakeholders in the field of EM. Doing so allowed me to gain familiarity with the individuals, organizations and institutions involved in developing EM in India, and with postgraduate medical education in the country more broadly.
2. I then spoke with individuals at JHSPH with experience with EM in India to gather their perspectives on stakeholders in India. One JHSPH stakeholder connected me with four US stakeholders working on EM in India; I confirmed that these individuals were involved in EM in India through document review. I met some of these individuals at the American College of Emergency Physicians meeting in October 2014 in Chicago. Further, the JHSPH stakeholder shared the names of other stakeholders involved in EM in India (confirmed through document review).
3. I followed up on these discussions with initial meetings with a few key stakeholders in Chennai and New Delhi (n=3) and requested further information about key stakeholders involved in EM in India.

4. I then developed a list of these individuals, their institutional affiliation, their current country of residence, and a brief summary of their engagement with EM. This list served as my initial sample list.
5. To learn more about stakeholders involved with MCI, NBE and other government actors, I also spoke with advisors in India about individuals that I should consider interviewing. I compiled these names into the earlier sample list, noting their institutional affiliation (current and former) and a brief summary of their engagement with regulation.
6. To determine the list of individuals that I would then reach out to for interviews, I employed maximum variation sampling. I reviewed each of these stakeholders based on the criteria mentioned earlier – nature of the stakeholder, country of residence, nature of institution, professional association, and years of involvement in EM in India – and selected potential respondents to reflect diversity in these criteria.
7. Once I began the interviews, I then employed snowball sampling, particularly in the early interviews, to request ideas from interviewees regarding other individuals that I should speak with. During the interviews, respondents also mentioned names of key individuals involved in developing EM in India and/or postgraduate medical education in India, and I added these names to my sample list. I then similarly employed maximum variation to determine whether to interview those individuals.

Administering the interviews: I reached out to potential respondents primarily by email and phone, and on occasion in-person. Three respondents declined to be interviewed, six potential respondenets did not respond to requests, and three respondents expressed interest but were unable to commit to a date and time for the interview

For those respondents who agreed to the interview and for whom I had an email address, I shared the verbal consent form with them via email for their review prior to the interview. I then provided a copy of the verbal consent at the interview, and read through the form with the respondent. The respondents were asked to keep the verbal consent form for their records. I then requested permission for audio-recording the interview. 64 participants agreed to be recorded. For 17 interviews, I made the decision not to use a recorder; most of these participants were a part of the government, and based on the sensitivity of the information to be discussed, or my judgment of the situation, I decided not to request using the recorder (Bryman, 2004). For three interviews, I was unable to use the recorder due to the nature of the conversation (in an open area, or on a telephone). Three participants declined to be recorded.

Interviews were primarily conducted in English, with occasional use of Tamil or Hindi. Following each IDI, I wrote a brief analytic memo capturing the main themes of the discussion, highlighting additional lines of inquiry, and identifying other potential stakeholders that emerged from the conversations (Charmaz, 2006).

Non-participant observation: Observation is a useful data collection technique to make inferences about perspectives that might not arise from interview data (Maxwell, 2005). Observation provides important information in understanding the context of the data collected (Mack et al., 2005). Observation also allows us to improve the credibility and quality of data, by facilitating a more nuanced understanding of the phenomenon. In researching power, observation allows researchers to uncover direct expressions of power underlying power relations, the context in which power is exercised and ways in which 'rules of the game' take place and/or are challenged (Erasmus and Gilson, 2008).

Sampling: Prior to initiating data collection, I decided to concentrate observation on conferences, meetings, and executive meetings. I followed a similar approach to determining possible observation sites as I did to gathering information on in-depth interviews. I spoke with EM stakeholders about upcoming national and state level conferences in India between June and December 2015. Using maximum variation sampling, I then decided to select observation settings that reflected the diversity of stakeholders involved in the EM community; for example, I attended the annual meetings of both SEMI and INDUS-EM, and also attended a national-level meeting organized by SEMI members, but with a regional focus on South India. I learnt about two other meetings – a session on health and the law, and a trauma care meeting, both in New Delhi – during discussions with EM stakeholders and in the case of a health systems conference in Chennai, an external advisor.

Implementing observation: Prior to each observation, I requested permission and where possible, shared the consent form, with 'gatekeepers'. I developed a loose 'observation protocol', in order to maintain a focus on actions and proceedings that were relevant to the research objectives (Annex 3). For examining power dynamics, I focused on categories that could provide key insight on power, such as status differentials, organizational style, use of language, and physical objects (Erasmus and Gilson, 2008). During the observations, I also had informal conversations with several EM stakeholders; some of these conversations led to these individuals being included on a sample list, from which I selected final interviewees. I kept track of other informal conversations through the case study database.

Following each observation, I immediately typed up field notes and prepared an analytic memo for each observation visit in order to reflect on the major actions that took place during the visit, my observations for how power was negotiated and expressed within that specific setting, and further lines of inquiry. I also reflected upon my engagement with actors during the observation, and whether this led to reactivity.

Analytic approach

I used a modified version of the 'framework' approach, a qualitative data analysis strategy widely used in applied policy research (Ritchie and Spencer, 1994). Developed as a policy analysis tool in the1980s by the National Centre for Social Research in the U.K., the 'framework' approach has become a useful thematic analytic approach in health

policy analysis due to its flexibility and utility with large qualitative data sets (Gale, 2013, Pope, 2000, Ritchie and Spencer, 1994). Due to the nature of this particular analytic approach – high volume of qualitative data with one primary analyst – in consultation with my primary advisor and a qualitative research specialist, I decided to adopt a modified version of the framework analysis. The steps are listed below and depicted in Figure 1:

1. Concurrent analysis: The concurrent collection and analysis of data is a key feature of qualitative methodologies; this approach allows for an iterative approach to data collection, allowing the researcher to integrate emerging themes into data collection (Miles, 2014). Following each interview, I typed up field notes and prepared an analytic memo summarizing key themes from the discussion (Charmaz, 2006). Similarly, following observations, I typed up notes in the form of field notes, and generated analytic memos summarizing key points that emerged. I periodically also produced analytic memos that summarized emerging themes across the sources of data in the study. I shared some of these memos summarizing key events and themes with advisors during the data collection process as a form of peer debriefing (Gilson et al., 2011a).

2. Transcription and De-identification: All interviews were transcribed verbatim following the interviews by one contracted transcriber. I cleaned, checked and de-identified each raw transcript. I similarly de-identified all field notes and analytic memos.

3. Familiarization: This stage emphases immersion in raw data (in the form of transcripts, audio recordings, documents, field notes, etc.) in order to identify preliminary ideas and recurrent themes (Gale, 2013). I conducted each interview, and therefore, was familiar with the content of the discussion. I also prepared analytic memos on each interview, and reviewed each of these memos prior to initiating coding. Finally, through the process of cleaning, checking and de-identifying, I read each of the transcripts. For some transcripts, this involved listening to portions of the audio recordings to clarify the content.

4. Selecting and developing analytic frameworks: For each of the chapters, I utilized a framework to help design and/or analyze the data.

- *Regulatory mapping:* Building on the regulatory framework proposed by Kumaranayake et al. (2000) and Sheikh et al. (2013), I developed a framework to explore the regulatory architecture of postgraduate medical education in India.
- *Agenda setting:* After initially proposing to consider both the Kingdon multiple streams theory, and the Shiffman and Smith issue ascendance framework, I determined that the Shiffman and Smith framework was most suitable for the data (Kingdon, 1995, Shiffman and Smith, 2007a).
- *Formulation and implementation:* Following a review of existing frameworks, I decided to take an inductive approach to analysis, drawing upon relevant formulation and implementation frameworks as needed (Berlan et al., 2014, Greenhalgh and Russell, 2010).

- *Power:* To analyze my data from a power perspective, I developed a framework based on a multi-disciplinary review of existing theories and frameworks on power.

4. Codebook development and coding: A combined deductive and inductive approach to analysis was utilized for this study (Gale, 2013). I first developed an initial list of codes by reviewing the above frameworks, and built on this list by reviewing memos generated from the 87 in-depth interviews, six observations and select documents to prepare an initial list of codes (MacQueen, 1998). I then conducted line-by-line coding on paper with six transcripts, from which we further inductively generated codes (Charmaz, 2006, MacQueen, 1998). I then applied the new codebook to an additional seven transcripts using Atlas.ti, and based on this process, condensed the codes into a final list in consultation with my primary advisor (MacQueen, 1998).

5. Analysis – first stage: I then applied this final codebook to an additional 33 transcripts that were selected for in-depth coding due to the richness of the data presented in those interviews. I entered the transcripts, and field notes where relevant, into Atlas.ti. Using the software, I then examined the data for each major research question. During the process of reviewing the coded data, I noted patterns, making contrasts and comparisons within the data, and examined the relationship between variables (Miles, 2014). Building on this analysis, I then developed themes that emerged from my understanding of the data, and discussed these themes with my primary advisor (Bryman, 2004).

6. Writing – first stage: In order to develop, refine and contextualize these themes, I began the process of writing up my findings (Charmaz, 2006). I developed drafts for each of the results chapters based on coded data and analytic memos, and utilized documents from the case study database to triangulate my data (Yin, 2014). I shared these drafts with my primary advisor as a method of discussing and refining the themes.

6. Analysis – second stage: Once the themes had been established, I developed a matrix with the remaining 41 interviews, relevant documents, and observation notes serving as the 'row' and the themes for each of the chapters making up the 'columns' (Miles, 2014). The purpose of this exercise was to confirm or disconfirm themes, and present new information where possible. The matrix was also useful for the purposes of 'counting', or seeing patterns a certain number of times in the data (Miles, 2014).

7. Writing – second stage: Once I completed the second stage of applying the codebook, I began refining and finalizing my earlier drafts. In this process, I also drew upon additional documentation that emerged during this phase of the writing process to further triangulate my findings.

8. Respondent validation: I then engaged in respondent validation with key informants by discussing key findings and incorporating their feedback into the analysis (Gilson et al., 2011b). In the case of the regulatory mapping exercise, I shared drafts of the chapter with two experts in postgraduate medical education in India, and incorporated their comments wherever possible. For the agenda setting, formulation and implementation, and power

chapters, I discussed key themes in-person with three key informants (representing different aspects of the stakeholder community) in September 2016. As a final measure of respondent validation, I have shared drafts of the chapters with a wider set of 'representative' respondents.

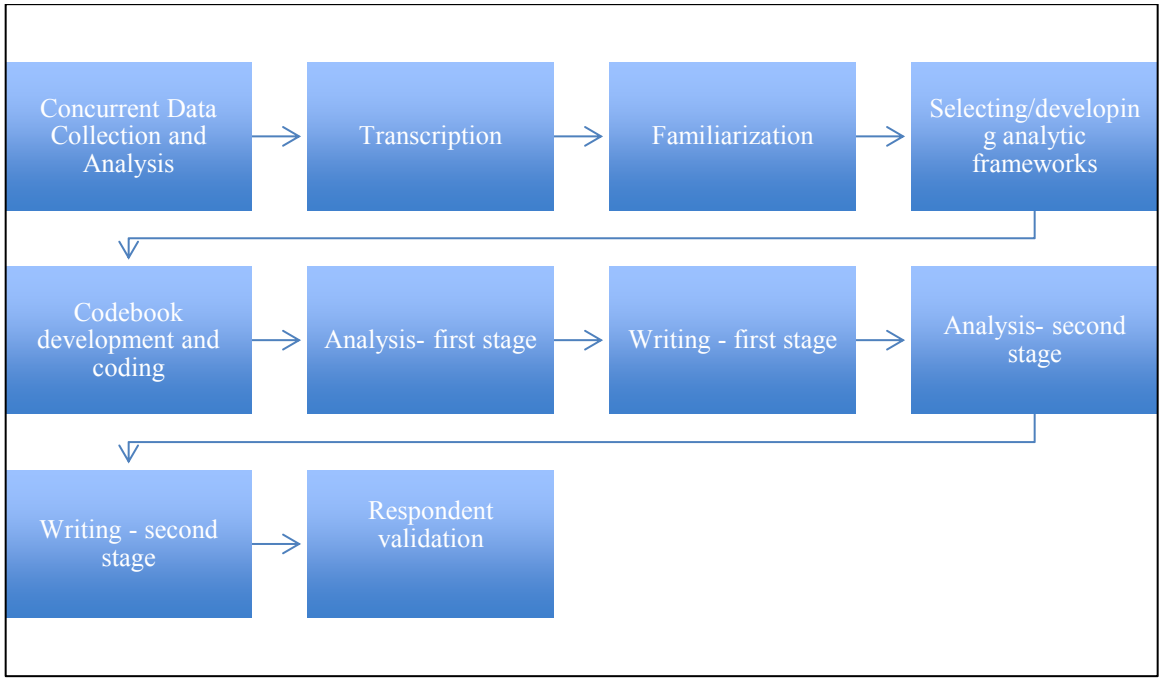


Figure 1 – Steps in analytic plan

Analytic strategies to ensure rigor: In addition to the 'framework' approach defined above, the following analytic strategies were utilized to ensure rigor in the analysis.

- *Building rival explanations:* Seeking rival explanations, or negative case analysis, is a critical aspect of high-quality case study research (Yin, 2009, Gilson et al., 2011a). Therefore, rival explanations were sought within the case wherever possible, as well as in contrast to other new medical specialties (through less formal comparisons that arise during fieldwork).

- *Analytic memos:* Analytic memos were generated following each data collection step (IDIs, observations and documents), in order to provide a running commentary of emerging themes, methodological issues, and lines of inquiry to explore.
- *Investigating power:* Building on methodological and analytic suggestions by Gilson (2008) and Williams (2012) in exploring issues of power, I adopted the following techniques to ensure rigor:
    - I sought information on power from a variety of sources (for example, observations and interviews) in order to crosscheck my interpretations.
    - My advisors and I engaged in discussion pertaining to the role of power in the study; this served as a form of peer debriefing.
    - Finally, I attempted to balance the analysis of more 'elite' processes with considerations of the role of the described policies in improving equity and population health.

Data quality: I utilized the following qualitative data quality procedures throughout the study period: -

Validity procedures*:* Qualitative validity focuses on checking for accuracy of findings through certain procedures (Creswell, 2009). Maxwell considers validity as a way of thinking about the 'correctness, or credibility of a description, conclusion, explanation, interpretation, or other sort of account' (Maxwell, 2005). The following procedures were utilized:

- *Triangulation:* An important strategy for checking accuracy of findings is using multiple sources of evidence. Themes that can be explained by converging sources of data are considered more valid. For this study, sources include interviews, observation and document review, and I attempted to bring together evidence from these sources to justify themes.
- *Comparison:* Although this study is a single case design, comparisons with relevant specialties, such as infectious disease or family medicine, were drawn upon at appropriate points during the study to check assumptions and accuracy of findings. 'Less formal' comparisons are utilized in such single setting studies in order to enhance the interpretation of findings (Maxwell, 2005).
- *Member checking:* I engaged certain key informants in a process of member checking throughout the study. During data collection, I periodically discussed, emerging themes with three key informants for their feedback and reactions. In September 2016, I spoke with the same three key informants regarding the themes that had emerged from the first stage of the analysis process. I took notes during these conversations, and incorporated their feedback wherever possible. Following the writing process, I shared the first results chapter on regulatory mapping to two respondents who were highly knowledgeable about postgraduate medical education in India, and wherever appropriate, incorporated their feedback into the draft (at this time, one respondent's comments are pending). I also sent the agenda setting chapter to one respondent for feedback and incorporated feedback wherever possible.

- *Rick, thick description:* Case study research involves an in-depth understanding of the context in which the case occurs. In order to ensure that this context is accurately captured, I relied upon on rich, thick description, where the setting, perspectives of multiple actors, events and processes are described in detail.
- *Negative case analysis:* During data collection and analysis, I ensured a focus on seeking and describing rival explanations to identified themes. In the first stage of analysis, I sought examples from the respondents that contradicted or disconfirmed key themes. In the second stage of analysis, one of my goals was to review remaining transcripts for perspectives that disconfirmed themes, and noted several instances where this occurred. I also presented these points of view wherever possible in my writing.
- *Peer debriefing***:** I consulted frequently during the research process with advisors in discussing questions and sharing analytic memos. Through this process, I identified gaps in the research, lines of questioning that were missing and other interpretations to the data analysis. I also shared copies of transcripts, codebooks, matrices, drafts, and memos with my primary advisor at multiple stages.

Reliability procedures: Qualitative reliability focuses on the consistency, organization, and rigor during the research process (Creswell, 2009). The following procedures were utilized for this study:

- *Case study protocol and database:* For case study research, it is important to document the procedures explicitly through a case study protocol, and a case study database. Overall, the aim is to operationalize the steps of the study to the

greatest extent possible (Yin, 2009). For this study, the original proposal served as the primary protocol. Further, I developed a database to link data (such as field notes, transcripts and other documents) to the main research questions.

- *Transcript review:* Following transcription, I reviewed transcripts for errors, such as missing sections. I also discussed errors with the transcriber to avoid future occurrences.
- *Maintaining definition of codes:* After developing the codebook in consultation with my primary advisor, I sought to maintain the definition of codes during the coding process. I primarily did so by referring back to the definition of codes, and also sought to compare coded data to ensure that the codes were capturing appropriate information.

Trustworthiness: Recognizing that qualitative methodologies involve different epistemological foundations, scholars posit that other measures of quality need to be considered with regards to qualitative research (Guba, 1981). Trustworthiness, or whether your findings are worth paying attention to, has emerged as an important concept in determining quality (Gilson et al., 2011a, Lincoln and Guba, 1985, Guba, 1981). Lincoln and Guba (1985) present four concepts that were utilized in this study:

- *Credibility:* Credibility of the study was enhanced by member checking, utilizing multiple sources of evidence, and seeking negative cases or rival explanations.
- *Transferability:* The use of rich, thick description allows for readers to determine whether the findings are transferable to other contexts, such as to a discussion of

the emergence of other, 'newer' specialties in India, the emergence of EM in other LMICs, or the rise of emerging specialties in LMICs.

- *Dependability:* The availability of a case study database provides an 'audit' trail for the study.
- *Confirmability:* The audit trail similarly supported confirmability, but this concept was enhanced through the use of quotes and multiple sources of evidence to justify themes and findings.

Authenticity: As qualitative research is based on the notion that the data come from participants' opinions and perspectives, the concept of authenticity is important in order to know whether the researchers have genuinely and fairly captured participants' experiences (Bryman, 2004). Within authenticity, the main idea applicable to this study, is fairness. In order to ensure a balanced and fair description of the case, I attempted to gather viewpoints from a range of participants and adequately represent the diversity of opinions that emerged from data collection (Bryman, 2004)

Reflexivity

Epistemological reflexivity: An explicit discussion of a researcher's philosophical assumption, or worldviews, helps explain the choice of methods ultimately selected for a

study (Creswell, 2009). I would consider myself of the pragmatism worldview, where researchers focus on the approaches needed to understand the research problem in question, rather than investigating a research question with previously held philosophical assumptions (Johnson and Onwuegbuzie, 2004). For the purposes of this study, I utilized the constructivist epistemology, whereby 'truth, or meaning, comes into existence in and out of our engagement with the realities in our world' (Crotty, 1998). Given the nature of the research questions and the diversity of respondents, situating the study in the perspectives of these stakeholders and understanding truth and meaning from their perspective was critical (Crotty, 1998). However, in constructing chronologies and timeframes, I did rely on a post-positivist approach, in that pinpointing specific dates and events in the case required seeking the 'objective' truth about when and how those events occurred (Creswell, 2009).

Critical reflexivity: Critical reflexivity is an important consideration when analyzing and accounting for the values, biases and assumptions that the researcher brings to the study (Creswell, 2009, Bryman, 2004). Reflecting on positionality when conducting health policy analyses allows for self-reflection on processes of gaining access to respondents, particularly important given that policy analyses often require engaging policy elites on sensitive topics (Walt et al., 2008, Mikecz, 2012). Positionality also allows for an understanding of biases in terms of the research agenda, objectives or knowledge construction (Walt et al., 2008). Finally, reflecting upon one's position allows researchers to appropriately analyze their data, as respondents might adapt their answers based on the position of the researcher or how the researcher presents him or herself (Harvey, 2011).

However, Mikecz (2012) suggests that positionality is not fixed; rather, it is on an 'insider-outsider' continuum, and the researcher's position can to some extent be shifted based the amount of pre-interview preparation conducted by the researcher.

My experience conducting this study suggests that in an Indian context, the power dynamics between researchers and interviewees are strongly impacted by how factors of class, race, language, ethnicity, caste, gender, institutional affiliations, connections, and other factors, emerge and interact in the context of the interview. As a 32-year old, Indian origin-woman from an elite U.S.- public health institution, my research process was strongly influenced by how those characteristics interacted with those of my respondents. I will discuss them in further detail: -

1) Institutional affiliation – Institutional affiliation is often credited with improving the quality of elite interviews (Rivera et al., 2002, Harvey, 2014). My affiliation with JHSPH undoubtedly opened doors with some elites that would have remained firmly shut otherwise. A few participants informed me during the interview that they would not have met me to discuss these topics if I had been from an Indian university.

2) Gender, age, class and caste – Social dynamics pertaining to gender, age, class and caste in India are highly complex, and fundamentally shape professional and personal lives. In my experience, these factors fundamentally altered the dynamic and outcomes of each interview. Such power differentials in elite interviewing have been previously described, and similar to McEvoy (2006), I found myself as a young woman dealing with

largely middle to older age men. On balance, I found that most interviewees were respectful and gracious, in many cases perhaps due to my class, caste, affiliations or connections. But, for those interviews that were problematic, my gender and age appeared to be the major factors.

3) Ethnicity – My respondents represented numerous ethnicities in India, and while I did not face any bias for being Tamilian, I noticed that my Tamil ethnicity facilitated better relationships with those respondents who were Tamilian, who had experience in Tamil Nadu, or who understood and/or spoke Tamil. For example, I found the interviews where respondents and I could break off into Tamil had a far more conversational and informal tone than those interviews in English. One respondent with experience in MCI explicitly said that he met me because I was a fellow Tamilian, and even cautioned that 'North Indians' would not give me the same amount of time. I noticed that given the multi-ethnic, and fragmented, character of the stakeholder group, respondents gravitated towards those whom they felt a kinship with, in this case, our shared Tamilian ethnicity. In her work on the 1999-2002 power sharing government in Northern Ireland, McEvoy (2006) similarly discusses how those respondents who assumed shared ethnic heritage with her engaged in relaxed, successful interviews. From an Indian perspective, I wonder to what extent this sense of kinship was ethnic, as opposed to ethno-linguistic. For example, it is possible that respondents who were more comfortable engaging in Hindi as opposed to English would have been more trusting had I possessed superior skills in Hindi.

4) Accessing respondents through networks – Several of my family members have been engaged in the medical profession in India, including my parents. Coincidentally, my parents had also on occasion worked at some of the institutions that were a part of the study, or personally knew the respondents. I therefore had to interview four respondents who I knew were associated with my parents. Beyond those four instances, I rarely drew upon those networks, except in one instance when I was unable to secure an interview without a request from one parent. To avoid the suggestion of bias, I adopted the same interview procedures as with other interviews, and did not discuss any study-related data outside of the interview.

In the actual conduct of the study, I faced the following issues that might have biased my view of the data: -

1) Negotiating a fragmented stakeholder group – One of my respondent categories, emergency medicine stakeholders, was highly fragmented, with two competing professional associations claiming to represent the field. These groups were highly suspicious of one another, with intense undercurrents of personal and professional rivalries. A key challenge that I faced was conveying my neutral orientation as a researcher, but also indicating that I was keenly interested in their version of events. I was frequently asked by each 'side' about the other, and had to ensure that I kept their often-vitriolic comments in context. Towards the end of data collection, the tension between the groups escalated dramatically, and resulted in certain stakeholders being more apprehensive about the study. I attributed this caution to their concerns of wanting

to control the narrative, and being discomfited by the idea of a researcher walking between the various subgroups in the network.

2) Encouraging openness – I also engaged with respondents involved in the regulatory institutions involved in postgraduate medical education, primarily MCI and NBE. The trajectory of EM overlapped with a particularly contentious period during the history of MCI, involving three Boards of Governors from 2010-2013. In my experience, I found that I could more easily access and engage with respondents from the 'reform' periods, but that I had to consider their intense distrust of the current leadership. In terms of engaging current leaders and bureaucrats at MCI, I had to exercise considerable caution. The primary issue was the deep hesitation within the institution towards any kind of scrutiny. Convincing potential respondents to discuss their views with a doctoral student was a challenge, but for many key interviews, I was able to bypass this issue through introductions facilitated by other respondents, advisors and in a few instances, personal connections. In some cases, I also took the decision of not audio-recording the interview, in order to encourage more openness from the respondents. I ran into more difficulties around determining whether to interview individuals who were directly involved in my case, but who had been suspended from MCI due to allegations of corruption. I ultimately decided against interviewing these individuals.

3) Logistical issues – I faced serious logistical hurdles in setting up interviews with the doctors and policymakers in the study. Securing time with these individuals required extensive persistence, and occasionally, alternate approaches such as approaching them at

conferences. The extent to which one goes in securing time with the respondents might then lead to those individuals shaping the agenda for the interview. Rivera et al. (2002) noted that being deferential also gave the interviewee more control over the scope of the interview, and therefore, the data perhaps do not directly address the research questions at hand. Using snowball sampling also raises ethical and methodological considerations around confidentiality. In one example, after I requested contact information for potential respondents, a key informant copied ten potential respondents in an introductory email, immediately compromising their anonymity.

Limitations

There are several limitations in the design and implementation of this study. In each chapter, I have outlined key limitations pertaining to the design and analysis specific to the research question. Here, I will outline some of the broader limitations of the study.

1. *Single-case design*: This study was designed as a single, holistic case, with brief comparisons to other new specialties woven where application. However, the lack of a formal comparison is a limitation in this study. Multiple-case studies are sometimes considered more robust, allowing for stronger analytic conclusions due to the comparison of data across two cases (Yin, 2014). Designing this study with two cases could have strengthened the robustness of our findings, for example, by exploring another new specialty in similar depth. However, due to the time required for conducting a second case, it was decided that conducting a robust

investigation of one case would be sufficient, and that less formal comparisons of EM with other new specialties through select interviews and document review would provide opportunities for contrast and comparison.

2. *Research focus on metropolitan areas:* The majority of the data collected in this study pertains to events and processes occurring in metropolitan areas, largely within elite circles. Although I sought to understand the perspectives of EM stakeholders regarding the impact of EM in rural areas, I did not conduct primary fieldwork in rural settings as part of this study. In order to analyze the possible impacts of EM in rural settings, I therefore relied upon my understanding of emergency care through prior research on the topic in rural areas of India (specifically, Chhattisgarh, Gujarat and Karnataka).

Structure of the dissertation

My findings are categorized in four chapters. The first chapter describes a policy mapping of the regulatory architecture for postgraduate medical education in India, in an effort to situate the development of emergency medicine in the broader context of specialization in the country. My analysis reveals a fragmented and uncoordinated regulatory architecture for postgraduate medical education, and weak systems for coordination and integration of medical specialties within the health system. I also suggest that historical, political and socio-economic factors have shaped the formation and trajectory of these institutions in fundamental and seemingly irreversible ways, resulting in a complex environment that specialty advocates, students and other

stakeholders find difficult to navigate, and one that privileges market forces over public need.

The second chapter examines the factors underlying the political prioritization of emergency medicine in India, exploring themes of actor power, political context, and ideas. Emergency medicine emerged in India due to exposure of Indians to the specialty abroad, and due to persistent advocacy from the Indian diaspora, amplified by the increasing privatization of health care in India from the 1990s onwards. Despite inchoate fragmentation within the transnational stakeholder network, most actors converged on the idea of postgraduate medical education, and independently pursued the formal recognition of emergency medicine as a medical specialty with MCI. I show the ways in which the lack of coordination within the stakeholder network appears to have facilitated policy adoption due to multiple channels attempting to break through the opacity of the regulatory institutions. However, the lack of cohesion did not facilitate policy *success*, as the fragmentation ultimately broke apart the policy agenda for the specialty, with numerous policy objectives either in contention, or being duplicated.

The third chapter explores the policy stages after formal recognition of emergency medicine by MCI in 2009. Here, I conclude that the bureaucracy of MCI prioritized administrative, rather than technical, processes in their approach to formulating policy for new postgraduate fields, resulting in processes with only limited consultation and dialogue with emergency medicine stakeholders, and resulting in ambiguous faculty criteria, unstandardized curricula, and highly contested infrastructural requirements.

Stakeholders on all sides – MCI, their inspectors, and the medical colleges – interpreted policies differently, and yet, MCI enforced their interpretations strictly, resulting in 70 percent of emergency medicine courses being de-recognized by 2015. Thus, MCI created an environment of fear and confusion amongst emergency medicine stakeholders, leading to diminishing interest in establishing residencies in medical colleges, and renewed interest in other forms of training, such as courses outside the regulatory architecture.

The final results chapter of the dissertation pulls together these findings within a theoretical and analytical framework. Drawing on a multi-disciplinary understanding of power, I develop a framework that examines both the sources and applications of power. The four sources of power identified in this case – technical expertise, bureaucratic power, network power and financial power – enabled the stakeholder network to aggressively and often independently pursue recognition with MCI. However, during the nine-year period of policy impasse, emergency medicine stakeholders applied their power inconsistently and at cross-purposes, creating a divided stakeholder network and contentious policy landscape. Transnational forms of power, such as socialization and legitimation, further complicate our understanding of how emergency medicine gained importance. Overall, my analysis reveals that the exercise of power by some groups has both greatly facilitated and hampered the development of emergency medicine.

In the concluding chapter, I present a synthesis of key themes cutting across the four chapters, discuss avenues for future research, and present certain policy implications for the development of medical specialties emerging from this research.

Chapter 2: Mapping the Regulatory Architecture of Postgraduate Medical Education in India

Introduction

Regulation is an essential function in health systems, and is central to advancing equity-oriented policy objectives in health (Doherty, 2015, Busse, 2003 , Ensor and Weinzierl, 2007). Regulation takes on a particularly important role in low- and middle-income countries (LMICs) with "mixed health systems", defined as those health systems where public and private services coexist in the health market in both competitive and complementary ways, and where out-of-pocket payments are the primary source of revenue generation (Nishtar, 2010, Busse, 2003 , Bloom et al., 2014, Ensor and Weinzierl, 2007, Sheikh et al., 2013). Despite their critical role, the development of regulatory institutions has been outpaced by the rapid growth of health markets in countries with mixed health systems, and further, regulatory institutions, Ministries of Health, and other state and non-state actors responsible for health are not adequately connected, coordinated or supported by legislation within the architecture of the regulatory system (Bloom et al., 2014, Nishtar, 2010, Baru, 2013).

The restriction of entry of health providers into the market is among the most notable forms of regulation for safety and quality in the health sector in LMICs, and one among these elements is the regulation of training and education that health providers receive prior to delivering services (Bloom et al., 2014, Kumaranayake et al., 2000, Doherty,

2015, Teerawattananon et al., 2003). Restricting entry through the formal licensing of providers often extends to overseeing the quality of undergraduate and postgraduate training in professions such as medicine, nursing, dentistry, and pharmacology (Doherty, 2015). Professional councils, often autonomous but sanctioned by the government, perform these duties in many LMICs (Doherty, 2015, Clarke et al., 2016, Teerawattananon et al., 2003, World Health Organization, 2014). In the South-East Asia region for example, Bangladesh, Indonesia, Sri Lanka, and Nepal each have professional councils that oversee accreditation and regulation, although numerous differences exist between countries in the design and implementation of these systems (World Health Organization, 2014).

The regulation of medical education in India, a country that is a stark example of a 'mixed health system', can be described as a combination of 'command and control' using licensing and accreditation strategies, and self-regulation by the profession (Ensor and Weinzierl, 2007, Bloom et al., 2014, Busse, 2003 , Peters and Muraleedharan, 2008, Sood, 2008, Iyer, 1999). In the case of postgraduate medical education, three streams of regulation exist. The first stream is that of the Medical Council of India (MCI), a quasi-government professional council that oversees India's 426 medical colleges (Sood, 2008, Rao et al., 2011, Medical Council of India, 2016). The second stream is that of the National Board of Examinations, a Ministry of Health and Family Welfare (Ministry of Health and Family Welfare)-led institution that implements a postgraduate degree called the Diplomate of the National Board (DNB) in private medical institutions. The third stream is that of the nine 'Institutes of National Importance', including the All-India

Institute of Medical Sciences (AIIMS) – publically funded institutions that by Act of Parliament function autonomously, but with the presumed retrospective approval of MCI (Ananthakrishnan et al., 2012, Sood, 2008). Outside these three streams exist a plethora of postgraduate training programs that are not formally overseen by regulatory institutions, such as certifications, fellowships and Masters programs offered by medical colleges, hospitals, and other health institutes.

Medical specialization is a critical, yet understudied, aspect of health systems in India and other LMICs. Recent medical specialties in India, including Emergency Medicine, Family Medicine, Infectious Diseases and Palliative Medicine, have all prioritized postgraduate training as a key policy objective, but have had different trajectories (Table 5). For example, Family Medicine has been formally recognized since the 1980s, and yet, there is only one MCI-approved course, and around 180 seats in the NBE system (Kumar, 2017). Of the broad specialties approved since the 2000s, Infectious Diseases has no MCI-recognized courses and only three NBE courses, while conversely Palliative Medicine has one MCI-recognized course and no courses in NBE (Ghafur, 2014). Emergency Medicine has over 25 MD courses permitted, but many have not been given formal recognition by MCI in the final inspection. More needs to be understood about the system in which these specialties evolve, and the factors that might explain their divergent paths.

Table 5: Recent medical specialties in India

Specialty	Year of recognition	Number of courses
Family Medicine	1983	Medical Council of India – 1 National Board of Examinations – 60 Institutes of National Importance – 6 (Listed as Community and Family Medicine at AIIMS)
Emergency Medicine	2009	Medical Council of India – 26 National Board of Examination – 20 Institutes of National Importance – 2
Infectious Diseases	2009	National Board of Examinations – 3
Palliative Medicine	2010	Medical Council of India – 1

Sources: Medical Council of India, National Board of Examinations, Kumar (2012), Anathakrishnan (2012), Personal Communication with Ghafur (2014) and Kumar (2017)

Despite their outsize role in health systems in India, there are few empirical studies that explore the functioning of health sector regulatory institutions, and fewer still on the institutions that regulate medical education (Peters and Muraleedharan, 2008, Baru, 2013, Sheikh et al., 2013). Of these institutions, MCI has been the subject of considerable scrutiny in recent years due to allegations of dysfunction and corruption, most notably in 2016 through a scathing report by the Parliamentary Standing Committee on Health and Family Welfare (Baru, 2015, Parliament of India, 2016). Concerned stakeholders in the medical profession have also written forcefully about the need for a fundamental restructuring of medical education regulation in India (Ananthakrishnan, 2010, Sood, 2012, Thomas, 2013, Nagral et al., 2016). Yet, little research exists regarding its functioning, including its relationships with the NBE and the Institutes of National

Importance. The proposed National Medical Commission is intended to fundamentally restructure medical education in India by merging the MCI and NBE, mandating standardized entrance and exit examinations, and involving non-medical professionals in the membership of the council, and while many applaud the proposed reforms, criticisms include the allowance of for-private medical colleges and ambiguous fee regulations (NITI Aayog, 2016, Jain, 2016). Empirical work on the current system could potentially inform the functioning of the National Medical Commission, should the proposed legislation become law.

Exploring the reasons for why interventions unfold in certain ways necessitates an examination of the system in which the intervention exists, including its "configurations, strengths and weaknesses" (Sheikh, 2011, de Savigny and Adam, 2009). This dissertation concerns the development of emergency medicine as a medical specialty in India; to develop a comprehensive understanding we must therefore situate its evolution within broader context of the regulatory architecture of the health sector in India. Specifically, the actors and mechanisms involved in both recognizing new specialties and regulating courses in those specialties can help unpack why the varied trajectories across specialties can occur, and also to tease out the linkages between specialty development and their impact on the broader health system. The goal of this chapter is to therefore utilize policy mapping in order to analyze the regulatory architecture of postgraduate medical education in India in the context of specialty recognition and course development. Policy mapping has been previously used in health policy and systems research to describe the relevant laws and rules underlying a policy target, to identify and assess stakeholders

tasked with achieving this primary target, and to describe the gaps between policy design and implementation (Aliyu, 2002, Sheikh et al., 2013, González Fernández et al., 2010) Building on a conceptual frameworks on health sector regulation in LMICs developed by Kumaranayake et al. (2000) and Sheikh et al. (2013), I examined the institutions, functions, enforcement, mechanisms and relationships that make up the architecture of the regulatory system for postgraduate medical education in India. Specifically, the objectives of this analysis are to: -

1) Map the architecture of regulatory institutions in India that can formally recognize academic medical specialties, and initiate postgraduate training in those specialties;

2) Map the architecture of regulatory institutions involved in developing policies around faculty criteria and course curriculum;

3) Describe gaps in the current architecture, particularly in the context of linking postgraduate medical education and equity-oriented health systems strengthening

Conceptual Framework

Developing the conceptual framework for this research question involved selecting and adapting relevant concepts from the work of Kumaranayake et al. (2000) around regulation of the health sector in LMICs. The authors consider three main dimensions in their framework – what to regulate, who to regulate, and how to regulate. Considering this specific example of regulating the health sector in India, I turned to Sheikh et al. (2013) and their study of health care regulation in two Indian states. Building on these two sources, I developed a framework to guide our analysis of the regulatory architecture of postgraduate medical education in India (Table 2). This framework consisted of five main dimensions – functions, institutions, mechanisms, enforcement, and relationships, each of which are further described in Table 6.

Table 6: Description of conceptual framework

Regulatory framework	Description	Examples	Source
Functions	Refers to what is to be regulated, or the target variable that is to be influenced.	Specialty recognition, course recognition, curriculum development	Kumaranayake et al, Sheikh et al
Institutions	Refers to the regulatory institutions tasked with regulating a specific function	Regulatory councils, government agencies	Sheikh et al
Mechanisms	Refers to how these regulations are undertaken, or the instruments and process used to influence behavior	Policies, incentives, disincentives, informal code of conduct	Kumaranayake et al
Enforcement	Refers to the penalties for an institution not complying with a regulatory mechanism	Fines, suspensions, de-licensing, criminal charges	Kumaranayake et al, Sheikh et al
Relationships	Refers to the relationships between the institutions involved	Competitive, complementary	Sheikh et al

Methodology

The mapping exercise consisted of two data sources – a detailed review of documents pertaining to postgraduate medical education in India, and a series of in-depth interviews with stakeholders representing regulators, medical colleges, and medical professionals. The interviews and document reviews were conducted iteratively; for example, information gained during the interviews led to seeking out particular documents, which in turn allowed for an adaptation of the interview guide to incorporate questions raised in the documents.

Document Review: Documents for this study were obtained through desk review and snowball sampling. 93 documents were drawn from the broader study and used specifically in this review (Table 7). I analyzed the documents based on their relevance to the categories of the framework, and entered relevant summarized information into a case study database. For certain documents, I prepared memos outlining key aspects of the document.

Table 7: Classification of documents included in the analysis

Document category	**Number of documents**
Legislation	9
Government reports	4
MCI meeting minutes	31
MCI reports, correspondence and inspection forms	13
MCI regulations	8
Medical college reports	3
National Board of Examinations	4
Strategy documents	7
Media reports	7
Books and published scientific articles	8
Total	**93**

Interviews: I developed a semi-structured interview guide based on a preliminary mapping of the regulatory architecture from *a priori* knowledge and a brief document review (Bernard, 2006). Questions were designed to be open-ended, and to allow space to pursue exploring themes and ideas. I selected potential respondents through two forms of purposive sampling. First, I utilized maximum variation sampling, a form of sampling used to capture shared experiences and themes across a diverse stakeholder group, and snowball sampling, a useful approach in identifing 'information rich' informants from other respondents in the study (Patton, 1990).

I conducted data collection for the study from March 2015 to January 2016, with the majority of interviews taking place in-person in India (primarily 11 metropolitan cities). Potential respondents were contacted by phone, email and/or in-person. I conducted 87 interviews with 76 respondents, 72 of which took place in-person, eight by Skype and seven by phone. Interviews ranged between 30 minutes and two hours, and conducted in English (with intermittent usage of Hindi or Tamil). Verbal consent was obtained from all respondents, and interviews were audio-recorded wherever possible. During each interview, extensive notes were taken by hand. Shortly after each interview, these notes were summarized in the form of memos. Audio-recorded interviews were transcribed verbatim by a contracted transcriber; I then cleaned, checked and de-identified each transcript. Each respondent was assigned a code during analysis. In order to protect the respondents' identities, I have only reported the broad categorizations to which the repondents belong (outlined in Table 8), and am withholding their organizational affiliation, geographic location, and demographic characteristics.

Table 8: Number and categorization of in-depth interview participants

Organizational categorization	Number of respondents
Current and former central government official	3
Current and former regulatory institutions	12
Development partners	2
Emergency medicine professionals	47
Medical college leadership	6
Other new medical specialties	5
Media	1
Total	**76**

Analysis: To develop the map for this exercise, I constructed a matrix using the five main categories of the framework, and extracted data from our sources to populate the matrix (Miles, 2014). First, I reviewed memos from each interview in order to familiarize ourselves with the data (Charmaz, 2006). I then proceed to coding, adopting a combined inductive and deductive approach (Gale, 2013). I first developed a set of broad codes based on our interview guides and conceptual frameworks (Table 6), and then built on this list from the memos, observations and select documents to prepare an initial list of codes. I then conducted line-by-line coding on six transcripts, from which we further inductively generated codes (Charmaz, 2006). I applied the new codebook to an additional eight transcripts, following which we condensed the codes into our final list. I then applied this final codebook to an additional 32 transcripts that were selected for in-depth coding due to the richness of the data presented in those interviews.

Returning to specifically to this mapping exercise, I populated the matrix using data extracted from in-depth interviews and document review, and wrote up themes emerging

from the analysis of this map. I then explored additional aspects of the regulatory scenario in India, such as history, contextual factors, and gaps through an in-depth analysis of the interview data and document review. After developing the map and themes, I reviewed the remaining 41 interviews to confirm or disconfirm themes, and present new information wherever possible. Finally, I shared a draft of the findings with two key respondents with expert knowledge regarding postgraduate medical education in India for respondent validation (one completed, one pending).

Results

History and Context

In India, public health and health facility administration are considered the responsibility of state governments (Constitution of India, 1950). However, medical education, and the medical profession, have been placed on the concurrent list, giving both the center and the state the power to legislate on these subjects (with the center taking precedence over the state) (Constitution of India, 1950). Despite being placed on the concurrent list, the regulation of professional education related to health has evolved towards being the responsibility of the center, through legally established professional councils, such as the Medical Council of India, the Dental Council of India, the Nursing Council of India, and the Pharmacists Council of India (Indian Medical Council Act 1956, Dentists Act 1948, Indian Nursing Council Act 1947, Pharmacy Act, 1948). These Councils have been born out of legislation, and although accountable to the Ministry of Health and Family Welfare

(Ministry of Health and Family Welfare), function with a high degree of autonomy [A84, A85, A111]. However, the approval of the MoHFW is required for most decisions taken by MCI (Goverment of India).

The Medical Council of India (MCI) was established in 1934, even though regional councils had been established as early as 1912 in the Bombay Presidency, 1914 in the Madras Presidency and the Bengal Presidency (Muraleedharan, 1992, Government of Tamil Nadu, 1914, Butt, 1946, Jeffrey, 1988). MCI was established at the behest of the General Medical Council (GMC) in the UK to regulate the training of medical professionals at medical colleges in India, to ensure that the training met the benchmarks set by the GMC (Muraleedharan, 1992, Jeffrey, 1988, Jeffrey, 1979). The establishment of MCI was intensely political, with the fledging IMA and nationalist politicians opposing its establishment (Jeffrey, 1979). Following 1935, political views on MCI began to subside, until the period after independence, when the Central Government began to take on a more dominant role in the affairs of medical education (Jeffrey, 1988). In the 1950s, in an effort to quickly increase the output of doctors in the country, the Central Government overruled MCI and allowed for the establishment of medical colleges that were in the view of MCI, not adequately prepared for teaching (Maru, 1985). The uneven power dynamics between the Central Government and MCI continued for the next few decades, with tensions largely centered on the issue of medical college expansion.

However, with the acceleration of privatization in medical education in the 1980s and 1990s, the Indian Medical Council Act was amended to include Section 10A in 1994, giving MCI and MoHFW more direct oversight over public and private medical colleges in order to stop the unstructured growth of medical colleges, and to enable standardization of courses [A34, A77, A83, A85, A106]. The inclusion of Section 10A marked a distinct change in the type of regulatory approach taken to medical education, and from the 1990s onwards, medical colleges were required to adhere to set criteria and undergo a series of inspections before training programs, including postgraduate programs, are formally permitted to begin [A77, A106]. Therefore, MCI seemingly acquired more bureaucratic power through their increased role in inspections. Furthermore, the late 1990s also saw the leadership at MCI acquire more political and financial power, points to be discussed in the later chapter on power.

Medical specialization in India was seemingly influenced by these broader shifts in the medical profession over the twentieth century. As early as the 1930s (and possibly earlier), international exchange efforts linking medical institutions in India and high-income countries, such as those offered by the Rockefeller Foundation, tended to concentrate on government and charitable medical colleges, and such fellowships have been said to have further diffused specialties from high-income countries to LMICs (Jeffrey, 1988, Mudaliar Committee, 1962) [A38, A39]. These exchange efforts helped medical colleges strengthen their hold as the forefront of developing medical specialties, and these specialties appear to have been more rapidly diffused to other medical colleges, due to a more relaxed regulatory environment [A41, A59, A81]. Furthermore, institutions

such as AIIMS in New Delhi, and Institutes of Postgraduate Medical Education and Research in Chandigarh and Puducherry were established after independence to ensure that medical education in India was self-sufficient and met global standards, symbols of the central government's intense commitment to specialist training (Jeffrey, 1988). However, with the acceleration of the private health sector in India, private hospitals offered an alternate route for specialty development through private practice rather than education [A17, A41, A116]. The role of the private sector in postgraduate medical education was given a further boost from the 1970s onwards with the initiation of the National Board of Examinations by the Government of India.

Until the 1970s, the British system of royal colleges, and American Board system dominated the choices for specialist training amongst Indian doctors (Jeffrey, 1988). However, in 1975, the UK stopped recognizing Indian medical qualifications, and India retaliated by revoking recognition for British doctors in India; furthermore, entering the US for temporary postgraduate training had reportedly become increasingly difficult (Jeffrey, 1988). The relatively sudden absence of postgraduate training of notable quality led to the Government needing to explore 'prestigious' mechanisms for postgraduate training, and therefore requested the Indian Academy of Medical Sciences to establish a system similar to the royal colleges (Economic and Political Weekly, 1975). The National Board of Examinations was therefore formed in 1975, and quickly became a parallel system for postgraduate medical education in the country (Economic and Political Weekly, 1975). The relationship between the MCI and NBE quickly became antagonistic,

and the two institutions repeatedly and volubly battled over the legal equivalence of their respective degrees [A2, A41, A59].

Over the last several decades, other contextual factors in India have shaped the landscape of postgraduate medical education. First, the desire amongst doctors to specialize and obtain postgraduate training in particular fields grew considerably in the 1990s and 2000s, possibly due to markedly higher salaries for certain specialists in the private sector [A30, A111].

"... geriatrics, infectious disease, family medicine, people are not coming forward, you see. Money is not there." Public medical college stakeholder

Respondents also noted the reorientation of young doctors' career trajectories around obtaining postgraduate training due to the low ratio of postgraduate seats to undergraduate seats (Ananthakrishnan et al., 2012) [A13, A48]. Second, some respondents believed that postgraduate education is not seen as a political priority at the state- and national-level, and therefore, does not get consistent attention from political leaders and bureaucrats [A48, A84, A85]. Finally, a few respondents noted the societal emphasis on 'degrees' in India, and implicit hierarchy in the types of degrees (an MD offered at medical colleges being perceived as superior to a DNB offered by private hospitals), and by extension, the regulatory institutions (MCI considered by some to be more authoritative than NBE) [A17, A19, A18, A106].

Broadly, the historical context of postgraduate medical education in India shows that the evolution of multiple streams of regulation due to colonial and post-colonial forces, and later within an increasingly privatized and politicized health sector, created myriad pathways for the recognition and development of medical specialties in India.

Table 9: Institutions involved in regulation of postgraduate medical education

Institution(s)	Year of Initiation	Foundational Authority	Oversight	Institutes/ Constituencies Regulated	Types of PG Degrees Awarded or Regulated
Ministry of Health and Family Welfare	1947	Constitution of India	Prime Minister's Office, Parliament, Office of the President	Medical Council of India, National Board of Examinations, Institutes of National Importance	NA
Medical Council of India	1934	Indian Medical Council Act (1933) with Amendments in 1956, 1964, 1993, 2001. Postgraduate Regulations of 2000;	MoHFW	Medical colleges	MD/MS (PG training undertaken post-MBBS), DM/MCH (PG training undertaken post MD), Diplomas
State Medical Councils	1912 onwards	Acts passed within state legislatures	State Governments	Medical practitioners	NA
National Board of Examinations	1975 (As part of the National Academy of Medical Sciences) 1982 (As an independent institute under MoHFW)	Constitutional oversight given to MoHFW	MoHFW	Private institutions	Diplomate of the National Board (PG training undertaken post-MBBS), Fellow of the National Board (Fellowship training undertaken post-specialization)
Institutes of National Importance	1956 (AIIMS), 1966 (PGIMER), 2008 (JIPMER)	- All India Institute of Medical Sciences Act, 1956 - The Jawaharlal	MoHFW	NA	MD/MS, DM/MCH, Diploma, Fellowships

		Institute of Postgraduate Medical Education and Research, Puducherry Act 2008 - The Post-Graduate Institute of Medical Education and Research Chandigarh Act 1966			
University Grants Commission	1956	The University Grants Commission Act 1956	Ministry of Human Resource Development	Centrally-funded medical colleges, Deemed-to-be universities	NA

Regulatory Architecture

Institutions

Table 9 describes the institutions involved in the regulation of postgraduate medical education.

Ministry of Health and Family Welfare: In the post-independence period, MoHFW took on a more involved and controlling role in the affairs of medical education, setting up confrontations with MCI largely around the expansion of medical colleges (Jeffrey, 1988). However, a few respondents noted that from the 1990s onwards, leaders at MCI attained more financial and political power, enhancing the position of MCI vis-à-vis MoHFW [A84, A85]. However, MoHFW still took an active interest in 'larger' policy issues, such as the design and length of the MBBS curriculum and the establishment of medical colleges, furthering complicating the existing 'grey' area in responsibility between the two institutions [A115]. Responsibility for issues pertaining to medical education lies within a unit of the technical arm of MoHFW, the Directorate General of Health Services. However, a few respondents noted that this unit is often overwhelmed with administrative responsibilities, leaving limited time for reviewing decisions taken by MCI [A32, A85]. That said, MoHFW, and other groups such as the erstwhile Planning Commission and other special Committees often discussed the need for specialists; some Committees have explicitly discussed at length the need to restructure processes for specialization, including the Bhore Committee and Mudaliar Committee [A115]

(Mudaliar Committee, 1962, Bhore Committee, 1946). A key instance of MoHFW involvement in specialization is the National Health Policy of 2002, which called for an earmarking of one-fourth of postgraduate seats for Family Medicine and public health, and in 2012-2013, MoHFW actively promoted the development of Departments of Family Medicine in medical colleges by offering grants for initiation costs (Kumar, 2016, Ministry of Health and Family Welfare, 2002). These policies however ran into multiple issues, largely around gaining the attention and commitment of state governments and medical colleges [A13, A85].

MCI: MCI oversees 462 public and private medical colleges in India (further categorized in Table 10). MCI comprises a combination of elected and nominated members, representing various constituencies such as central government, state governments, universities, and registered medical graduates [A77, A85, A106, A125]. The membership is organized around an Executive Committee, and decision-making is further devolved to a series of committees and sub-committees, such as the Postgraduate Committee, the Ethics Sub-Committee and the Academic Sub-committee (Medical Council of India). The administrative work of MCI is undertaken by a permanent secretariat. MCI secures its operating costs through a combination of MoHFW funding and inspection fees [A34] (Parliament of India, 2016). Respondents noted that MCI is technically accountable to MoHFW, but in largely technical matters, MoHFW more often than not approves decisions taken by MCI [A32, A83, A84, A85, A111].

"…so a Ministry like ours is more for advisory, facilitating role, the core work will always get done in the regulatory bodies." Central government official

"So a regulator versus a individual petitioner there is a tendency to agree to some extent of what MCI says, unless there is very solid and prior knowledge of…with the Ministry and Ministry decidedly not going to agree, and then their setup is not approve and otherwise…on very highly technical things they won't argue with them too much." Former central government official

Some respondents did point out that MoHFW has on several occasions pushed back against or delayed certain policies driven by MCI [A48, A83].

Regarding postgraduate medical education, the two key regulations in place are the Postgraduate Medical Education Regulations 2000 and the Teachers Eligibility Qualifications 1998. Building on these regulations, MCI prescribes various minimum standards that medical colleges must meet before being given permission to run a course. For example, medical colleges must follow a 'unit' system, whereby approximately a team of approximately three faculty members (led by one Professor or Associate Professor) oversee a clinical unit of 30 beds, and may supervise between one and two students (Ananthakrishnan, 2010).

MCI has been at the center of numerous controversies since the 1990s, largely around corruption pertaining to private medical colleges (Thomas, 2013, Rajalakshmi, 2001, MacAskill, 2015). Between 2010 and 2013, Boards of Governors were appointed to

oversee MCI, and the previous Council membership was dissolved. In 2016, the Parliamentary Standing Committee on Health and Family Welfare issued a scathing report on MCI and its functioning (Parliament of India, 2016), and the Supreme Court appointed a committee to oversee the MCI (Rajagopal, 2016a). In 2016, NITI Aayog, the official planning agency for the government, announced that a bill to replace MCI with a National Medical Commission would be put before Parliament (ENS Economic Bureau, 2016).

Table 10: Categorization of medical colleges in India

Type of institution	**Funding source/accountability**	**Regulated or unregulated**
Public medical colleges		
State-sponsored medical colleges	State Governments	Regulated
Centrally-sponsored medical colleges	MoHFW, University Grants Commission	Regulated
Private medical colleges		
Private medical colleges affiliated to a University	Private charitable institutions	Regulated
Private medical colleges within a Deemed University	Private charitable institutions	Regulated

NBE: The National Board of Examinations was established in 1975 (initially under the auspices of the National Academy of Medical Sciences) following the recommendation of a Government of India Working Group, to establish an organization mandated with the development of high-quality, standardized postgraduate education in private medical institutes [Right to Information Act Information Release]. The postgraduate degrees of NBE, the DNB and the FNB, are offered largely (but not exclusively) in private hospitals. The NBE is accountable to the MoHFW, and is overseen by a Board comprised of medical professionals, the composition of which has been the subject of intense political scrutiny (Press Trust of India, 2016b). The permanent administrative staff, headed by an Executive Director, appears to hold considerable authority in deciding the strategic direction of the NBE, with the approval of the Board [A19, A25, A27].

Institutes of National Importance: A select number of educational institutions from across disciplines have been termed as Institutes of National Importance by the Ministry of Human Resource Development. Only 11 medical colleges and institutions – AIIMS New Delhi and the six recently opened AIIMS in other parts of the country, PGI Chandigarh, Sri Chitra Tirunal Institute of Medial Sciences and Technology, JIPMER, and the National Institute of Mental Health and Neuroscience – fall into this category. These institutions are given considerable autonomy, including initiating courses in specialties that have not yet been formally recognized by MCI [A28, A38, A48, A53, A56]. Respondents also noted that these institutes, particularly AIIMS New Delhi, also wield considerable power in government, derived from their role as technical experts and their location in the capital city [A3, A19, A12, A21, A38, A111]. For example, some

respondents noted that the 'stringent' criteria for initiating a course within the Institutes of National Importance then lent credibility to the advocacy of those Institutes of National Importance promoting the inclusion of that particular specialty within MCI [A5, A28, A38, A80]. Future chapters will discuss the various sources of power for AIIMS in particular, and other elite medical colleges more broadly.

Finally, it is important to understand which regulatory institutions do not play a central role in overseeing postgraduate medical education, although they do play a role in the broader ecosystem. State Medical Councils are not involved in regulating postgraduate medical education, beyond formally licensing and registering practitioners who graduate from these programs. The University Grants Commission (UGC) plays an important role in regulating universities that have been granted considerable autonomy, called 'Deemed Universities' and are also involved with medical colleges that are operated using funds from the center, but are not involved in regulating the initiation of a specialty or course. Finally, the Ministry of Human Resource Development, the Ministry responsible for education, does not play a role in medical education, beyond being the overseeing body of the UGC. The courts have also been used a way to modify or enforce regulations in medical education [A85] (Choudhary, 2016, Iyer, 1999).

Functions, Mechanisms and Enforcement

Table 11 provides an overview of the mechanisms and enforcement options available for the regulatory functions involved in both recognizing specialties, and in initiating training programs. Below, we describe each of these categories in further detail.

Table 11: Map of Regulatory Architecture of Postgraduate Medical Education in India				
Regulatory Functions	**Regulatory Institutions**	**Mechanisms**	**Enforcement**	**Relationships between Institutions**
Formal recognition of a new specialty (nomenclature)	MCI	Government directive as approved by MoHFW (Postgraduate Medical Education Regulations 2000, Notification in the Gazette of India)	De-recognition of course	MCI and NBE function independently of each other (competition); degrees offered by Institutes of National Importance are recognized *defacto* by MCI (complementary)
	NBE	Government directive as approved by MoHFW	De-recognition of course	
	Institutes of National Importance (AIIMS, PGI, JIPMER)	Policy guideline	De-recognition of course	
Formal approval of starting a new course (national-level) *[Connected with Minimum Standard Requirements, curriculum, faculty, etc.]*	MCI	- Government approval (Permission and Recognition) - Compliance	- Course inspection (including inspection fees for private colleges) - Not recommending permission for course to start -De-recognition of course	MCI, NBE and the Institutes function independently and permissions to start a new course occurs only within each stream (competition)
	NBE	Government approval	- Course inspection - Not providing permission for a course to start	

			- De-recognition of course	
	Institutes of National Importance	Policy guidelines	Denying permission for course to begin	
	Ministry of Health and Family Welfare	Incentives *(rarely used – Family Medicine example)*		
Formal approval of starting a new course at the state-level (Public medical colleges, private medical colleges not part of a Deemed University)	Directorate of Medical Education	- Formal approval (Letter of No Objection)	Course inspection	Complementary – each step in the process is required (in addition to national level approvals)
	Affiliating University	Letter of support	Course inspection	
	Dean of Medical College	Letters of support, submission of the application		
Formal approval of starting a new course for Deemed Universities[1]	Medical College Leadership	Formal approval (Board of Studies, University Senate, etc.)	Course inspection	Complementary – each step in the process is required
	Medical College Leadership MCI	- Guidelines (Specialty Boards/Expert Committees)		
		- Guidelines (Specialty Boards/Expert Committees) - Guidelines via Inspection Form		
		- Specialty Boards/Expert Committees		

[1] Deemed Universities refer to those educational institutions that are considered by the Department of Higher Education, on the recommendation of the University Grants Commission, to be of a high standard, and therefore, can are given the status and privileges of a university

Curriculum	NBE	Specialty Boards/Expert Committees	No enforcement of curricula	Complementary at times; Institutes of National Importance representatives play a role on MCI curriculum committees
	University	- Specialty Boards/Expert Committees - Board of Studies/Academic Senate (For Deemed Universities)	De-recognition of the course	
	Medical college	- Department-led initiatives - Specialty Boards/Expert Committees	Course not permitted to start without curriculum	
	Institutes of National Importance	- Curriculum committees/Academic committees	Course not permitted to start without curriculum	
	MCI	- Government directives (Teachers Eligibility Qualification, 1998)	Course not permitted to start without curriculum	
Faculty criteria	NBE	Policy guidelines	- Not recommending permission for course to start - De-recognition of course	
	Institutes of National Importance	Policy guidelines	Course not permitted to start without appropriate faculty	
			Course not permitted to start without appropriate faculty	

Functions

This mapping exercise is primarily concerned with two functions – the recognition of new specialties, and the initiation of postgraduate training courses in those specialties.

The formal recognition of medical specialties in India pertains to the adoption of nomenclature for a specialty and the evolution of requirements to start a course in that specialty, signaling that training institutes may submit their requests for permission. In the case of the three formal streams – MCI, NBE and the Institutes of National Importance – the processes for recognition are largely independent, and the decision to start a specialty by one regulatory institution has in principle, no bearing on the decisions to start, or not start, a specialty by another institution.

The regulation of new courses involves multiple steps at the national- and state-levels, but that process varies depending on the type of medical college involved. The broadest, and arguably most important, form of regulation is the formal approval to start a new course at the national-level. For an application to reach the Medical Council of India, it must first go through a series of steps at the state-level, and further, must have worked through their respective channels to secure resources for the course (such as faculty, equipment, etc.) [A35, A41, A68, A122, A123, A125].

Beyond the approvals required to initiate a course, medical colleges must follow their own channels of accountability to sanction faculty, resources and infrastructure to

operationalize the program. For example, on occasion, centrally sponsored medical colleges work through the University Grants Commission for resources for faculty and equipment.

Mechanisms

Formal Recognition of Specialties: The decision-making process across the three steams – MCI, NBE, and the Institutes of National Importance – varies considerably. Some respondents reported that MCI tended to react more favorably towards specific requests for a specialty that are linked with proposals from medical colleges to start that specialty, while noting that NBE might favor a more holistic approach, planning for phased roll-outs in multiple institutions. Further, the decision by any one of the Institutes of National Importance to start a specialty must be accompanied by the formal start of a course in that specialty in that particular institution.

MCI: In the context of MCI, respondents noted that specialties often emerged from bottom-up, rather than top-down interest, and in some cases, have required consistent, long-term advocacy [A34, A48, A52, A77, A85, A99, A106, A123]. Some respondents noted that demand from medical colleges, with the expressed interest and resources to start courses, was a key driver in recognizing a specialty [A34, A83, A93]. Individuals working within medical colleges might see a solution to a service delivery challenge or gap in a specialty that is offered in another institution, or internationally, through exposure to those specialties in high-income countries [A54, A116, A32, A122, A123,

A125]. Bottom-up interest also emerges from students, and from their sense of the job market and their prospects for employment [A7, A14, A34]. Those prospects for employment were, in the view of a few respondents, driven by the increasing presence of for-profit hospitals in the health sector in India [A7, A48].

"Because what determines the choice of a specialty? How popular it becomes is not need of the society because no survey is done of that…dynamics is how much money it will fetch when you have a seat from students who want to join. That's why most of them will be private. Ok, if they feel that it's a marketable specialty then a lot of people will certainly join the bandwagon. But if they find that it is not marketable or there are likely to be regulatory problems in getting faculty and all, nobody will take it up….so that is how the system works in India." Private medical college stakeholder

"There is a corporatization of medicine and lot of corporate hospitals which are coming up who want specialists to satisfy the needs of real or artificial. Somebody who has a urea of 50 wants to see a nephrologist, so they have them. And you will be surprised to see that many corporate hospitals will have not internists but they have all specialists. So both people wanting to do degrees, sub specialization." Public medical college stakeholder

Other respondents discussed how the presence of courses in formats other than the recognized MD (such as unrecognized MD courses, DNB courses, fellowships, etc.) might spur interest from MCI and NBE [A3, A42, A71]. For example, in the case of

emergency medicine, several unrecognized courses had been initiated in both medical colleges and hospitals, and according to an MCI respondent, did factor into the recognition of emergency medicine gaining priority within the institution. MCI respondents also spoke of need driving the decision to initiate a specialty, and noted that the presence of a specialty in high-income countries and its potential applicability to India factored strongly into decision-making. Some respondents also cautioned that formal recognition did not necessitate that a specialty will flourish, and therefore MCI gave considerable weight to demand from medical colleges in the decision-making [A34, A35, A74, A93, A123].

Once requests for a specialty have gained sufficient priority within MCI, the next step is the formation of a sub-committee to discuss inclusion of the specialty [A32, A77, A24]. Once a sub-committee has recommended a specialty for introduction, the proposals are put annually before the General Body of MCI (along with other specialties that have been proposed). Following approval from the General Body, the recommendation goes to the MoHFW and finally to the Gazette, a process that is reportedly time-consuming [A77, A71, A83]. For example, emergency medicine had been cleared by MCI leadership to become an approved specialty in 2008 (Executive Council Meeting Minutes, April 27 2009), but due to various processes, was only formally approved by the General Body in November 2009.

Periodically, MCI has determined whether specialties are still active, or whether they required a shift form being considered a broad specialty (postgraduate training equivalent

to a residency in the American system) to a super-specialty (postgraduate training equivalent to a fellowship in the American system) [A14, A81, A99]. For example, Infectious Diseases was constituted as a broad specialty in 2009, but changed to a super-specialty in 2012 (MCI Meeting Minutes). Broadly, the institution does not appear to have a systematic approach for this type of surveillance.

NBE: The NBE follows an independent process to initiate specialties, involving both its Board and administrative branch [A27, A59]. Processes within the NBE to recognize specialties appear to follow a long trajectory, and respondents noted that some of these delays were due to dynamics within the Board [A27, A59, A71]. For example, in the case of emergency medicine, the NBE had announced plans to launch the course in 2007-2008, but due to internal delays, did not formally launch the course until 2013-2014 [A4, A27, A26, A29]. Similarly, in the case of Infectious Diseases, the NBE appears to have formally launched the course in 2007, but the first courses did not appear till several years later (Press Trust of India, 2007). However, specialty recognition within the NBE appears to follow a more structured path when compared to MCI, particularly in terms of linking the recognition of a specialty, with a concrete plan for rolling out that specialty across a number of institutions [A4, A26, A27]. Some respondents also believed that communication channels with NBE tended to be more open, and therefore, respondents noted easier access to NBE in designing curricula and developing the rollout approach during this period of formally recognizing the specialty [A4, A9, A23, A24, A25, A42, A48, A52, A110].

Initiating training courses

MCI: Once a specialty is formally approved, there are two key issues for MCI to work out – the criteria for faculty to teach the course, and the Minimum Standard Requirements [A83]. Typically, the faculty criteria are worked out alongside the formal recognition of the specialty, as was the case with emergency medicine and infectious diseases. In the case of Family Medicine however, no formal criteria for faculty are publically available [A8, A13]. Minimum Standard Requirements (MSR), the minimum requirements for a college to start a course, are usually developed after a specialty is recognized, as they are required for formal MCI inspections to be carried [A83]. The MSR are based primarily on the Postgraduate Medical Education Regulations of 2000, and are considered by some to be inflexible to the needs of particular specialties; for example, emergency medicine, family medicine and palliative medicine stakeholders have repeatedly requested MCI to adapt the '30 beds per unit' requirement, given that this criteria is incompatible with the service delivery in those fields; MCI has till date not adapted this [A13, A28, A29, A54, A123]. The chapter on Formulation and Implementation will discuss these issues in further detail.

Courses tend to 'diffuse' across medical colleges, rather than being formally rolled out by MCI or any other stakeholder [A4, A7, A83]. Respondents noted a variety of factors driving the initiation of a course in a medical college, including exposure of medical college leadership to a course, internal pressure from a particular person or department, peer pressure to initiate a course, or the need for more postgraduates in an institution

[A29, A45, A54, A92, A125]. The process to start a postgraduate training program in medical colleges is initiated formally by the Dean. At the state-level, the application must then be forwarded to the affiliating university, and in the case of public medical colleges, the Directorate of Medical Education. Following approvals (through letters of no objection), these applications are forwarded to MCI. MCI then works in two stages, first inspecting the college to issue a letter of permission, and three years later, when the first class is taking their final exam, a letter of recognition. Decisions issued by MCI are recommended to MoHFW for their nominal approval or disapproval. Deemed Universities followed a different process, where they go directly to MCI rather than through state authorities (requiring DME permissions in a few instances).

The responsibility for curricula is the most ambiguous, with responsibility seemingly distributed across MCI, universities, and medical colleges. Beyond suggesting broad outlines for the components of a postgraduate course (i.e., theoretical knowledge, practical and clinical skills, writing thesis/research skills), respondents indicated that MCI had an important role in developing course curricula, but was perceived to play this role inconsistently in the case of new medical specialties [A7, A34, A35, A48, A116]. Some respondents discussed participating in specialty boards for their disciplines to develop curricula [A5, A8, A7, A19, A35, A48, A56, A123]. However respondents from new specialties discussed numerous inconsistencies in the process. For example, with emergency medicine, the curriculum put together by an expert group from one professional society in 2011 is yet to be disseminated, despite MD courses running in 25 medical colleges as of December 2015. In palliative medicine, an expert group was

constituted by MCI in 2010 to develop a curriculum, but between 2011 and 2012, without notification, MCI called for a different group to draw up another curriculum; neither of the curricula has been released. With family medicine, one respondent discussed submitting a curriculum to MCI, only to be told a few years later by MCI that the curriculum could not be located.

Interestingly, the MCI Postgraduate Medical Education Regulations indicates that MCI plays a largely advisory role in curriculum, and that the responsibility for evolving the curriculum lies with the universities and medical college, and that colleges must establish committees to coordinate the development of the curriculum (Postgraduate Medical Education Regulations 2000). However, in the cases of some more established courses, MCI has taken on a structured approach to develop course curricula.

"They are just looking to MCI, if you look at the majority of the colleges. So they get something a readymade document from MCI saying…but MCI gives you minimum requirement. MCI says a postgraduate in medicine should be able to do this, this, this this and this is the content. This is the content, this is the way he should be assessed, this is what he is required to do - seminars, teaching activities and all the curriculum documents so to say. So Medical Council does facilitate that, that's what they do when you say specialty boards that's what they do." Public sector medical college stakeholder

However, as noted earlier, these processes were less systematic in the cases of new medical specialties, resulting in universities and medical colleges taking the lead. In the

case of emergency medicine, some universities adopted a common curriculum for the same course in all their affiliated colleges [A36, A92]. Other respondents reported that their affiliating university had not appointed a Board of Studies to evolve a curriculum, and so they were left to develop their own curriculum and share with the university for official purposes [A54].

Finally, examinations are the primary responsibility of Universities. MCI provides broad guidelines for the structure of the exam, but the preparation of the exam, the examiners, and other assessment protocols are left up to the Universities. In the case of emergency medicine, some respondents noted that given the lack of standardized curricula, students and professors relied upon reputed emergency medicine textbooks to structure the examination.

NBE: Several respondents perceived NBE to follow a more structured roll out of courses, and discussed the simultaneous and systematic development of curriculum, course infrastructure, and assessments [A4, A23, A24, A26, A42]. In the case of EM, prior to its formal recognition in 2013, NBE established an advisory committee consisting of Indian and international stakeholders to guide course development, and this committee reported being actively involved in its strategy and design. In 2014, 20 institutions began offering the DNB with a capacity of 66 seats, with the intention of scaling the number of institutions to over 60 within a few years [A110]. However, these processes were not without challenges. Respondents did note that in the case of EM, many courses were not initiated due to a period of inactivity with the NBE Board in 2014 and 2015 [A3, A84].

Furthermore, the composition of the advisory committee was reportedly subject to a tussle between the two main EM professional associations in 2015.

Institutes of National Importance*:* There is no separate process to recognize a specialty at Institutes of National Importance; these institutes are only required to go through a process to start a new course. Each Institute works autonomously, and their decision-making processes occurs independently through their own committees to approve or disapprove a course. These decisions do not require approval from MoHFW, although resources for the program must be routed through MoHFW. Policies on postgraduate courses issued by the Institutes of National Importance, are considered recognized from the standpoint of MCI; in other words, decisions taken by the Institutes are automatically given approval by MCI. Despite their autonomy, introducing new courses at Institutes of National Importance required considerable internal advocacy and negotiation. For example, AIIMS took nearly two decades to formally approve emergency medicine as a postgraduate specialty [A28, A38, A5, A31].

Enforcement

MCI: Medical colleges that are seeking permission or recognition for a course must undergo an 'unannounced' inspection. These inspections are conducted by specialists from public medical colleges, including the Institutes of National Importance. In the case of MCI, inspectors utilize a form known as the Standard Assessment Form, based on the Minimum Standard Requirements, and are required to enter information related to both

the medical college and the course that is being inspected. Private medical colleges are also required to pay an inspection fee, show an adequate bank balance, and also cover some of the costs of the inspection [A41, A122]. In the case of MCI, inspectors cannot make a judgment on whether a course should be approved or rejected. They can only share their assessment with the Postgraduate Committee of MCI, and the Committee then takes a decision whether to recommend the course for permission or recognition to MoHFW. Respondents noted that MoHFW typically does not overrule MCI on these types of decisions.

Respondents noted that MCI tends to have vastly different interpretations of the requirements to start a course, when compared to medical college stakeholders. While some respondents involved in inspections spoke positively about the process, some respondents on the medical college side noted that the Standard Assessment Form itself does not reflect the realities of training in that specialty (for example, in the case of Emergency Medicine, MCI's requirement of having separate beds for out-patients and in-patients is inconsistent with the organizing principle of the Emergency Department around short-term care) [A23, A36, A54, A56, A112]. One respondent described the current dynamic of inspections as a 'Hawthorne effect', where medical colleges try and modify their programs to suit what they perceive are MCI's requirements, even if those requirements have not been formally communicated by MCI. These differences in interpretations between the medical colleges, inspectors and the Postgraduate Committee of MCI were playing out actively in the EM case, with negative consequences; up until

2015, 11 colleges up for recognition were not given recognition for reasons ranging from ineligible faculty to inadequate clinical material (MCI Meeting Minutes).

In the event that a course is not permitted or not recognized, a period of four weeks are allowed to submit a compliance report, following which the course site will be inspected again for permission or recognition. Graduates from programs not yet been recognized by MCI are awarded a degree by the University, but since their degree is nor formally recognized by MCI, cannot serve as teaching faculty in medical colleges; however, they can practice in the private sector as a 'generalist' [A41, A31, A54].

NBE and Institutes of National Importance: The NBE system also relies upon specialty stakeholders to conduct inspections for new courses. Some respondents noted that enforcement in the NBE system appears to follow a seemingly structured and blinded format, including standardized curricula and exams across all NBE courses in a particular field, and yearly appraisals of the course [A4, A110]. Similarly, respondents involved in the enforcement process in Institutes of National Importance noted that the systems of enforcement in the colleges are tightly monitored internally [A5, A7, A28, A53].

Perceived Gaps in the Architecture

Respondents commented on the perceived structural weaknesses within the regulatory institutions and the impact of those weaknesses on postgraduate medical education,

including the development of medical specialties. Commenting on the development of new specialties, one respondent noted the following:

"…unfortunately, it's not a very thought through, established procedure. It's kind of an ad hoc, as and when, kind of a situation. Which is an offshoot of the fact I think that the overall regulation of medical education is I would say weak, structure is very weak." Former regulator

"...you might have noticed generally only by submitting some evidence and proving the need, things do not happen in this country." Palliative medicine stakeholder

Respondents noted that weak linkages between specialty development, and government strategy for health systems development negatively impacted regulation of postgraduate education in India [A7, A32, A34, A84, A85, A106, A116]. For example, respondents from MCI, MoHFW, medical colleges, and the specialties had varied responses regarding which group should hold responsibility for diffusing knowledge about particular postgraduate courses. MCI respondents felt that this should be the responsibility of the professional societies and state and central governments, while the specialty stakeholders felt that MCI needs to play a more active role [A8, A18, A25, A71, A83, A85]. Furthermore, some respondents believed that efforts to promote specialties that would arguably contribute to enhancing equity were inadequate [A13, A80, A106]. Respondents described a sense of confusion regarding which institutions bore responsibility for developing and promoting new specialties that would conceivably focus on poorer

populations, such as Family Medicine. For example, some respondents noted that Family Medicine had not been sufficiently prioritized by MCI, while other respondents believed that promoting new specialties was not MCI's responsibility [A7, A13, A34, A59, A83]. Some respondents believed that the unsuccessful attempts to promote Family Medicine by MoHFW and NBE illustrated the systemic gap for strategically developing these fields, and supporting their uptake by medical colleges and hospitals within the country [A13, A59, A122].

Respondents also noted that there was a lack of definition around institutional roles in regulation, and further, poor coordination between the regulatory institutions [A32, A34, A48, A51, A102, A106]. For example, while most respondents acknowledged the role of MoHFW in the regulation of medical education, some respondents noted that MoHFW tends to focus on issues of greater political priority, and also noted the perception that MoHFW might lack the capacity to monitor and regulate postgraduate education [A30, A32, A51, A85].

"I have never come across a case where government have appointed another expert committee to see whether a course in nuclear medicine is really important or not or whether course, an MD in emergency medicine should be introduced or not. I don't think Government of India has ever questioned that. It could, at best, be that the file is just lying over there and not done..." Former central government official

In another example of role confusion, some respondents noted that the National Board of Examinations cannot start a specialty until the Medical Council of India has done so; NBE stakeholders indicated that this was inaccurate and there were no official policy guidelines stating such [A7, A23, A24 A27, A46, A59]. Some respondents also noted that in previous years, the relationship between MCI and NBE had reached high levels of conflict, resulting in MCI and NBE taking decisions to counteract each other [A48, A99]. In discussing the reluctance of MCI to recognize a particular new medical specialty, one specialty stakeholder noted that MCI's negative stance paved the way for NBE's more positive approach.

"See if the mindset is I don't want to give you where am I going to change it? In National Boards the mindset is I want to be anti MCI, therefore I am giving you." Specialty stakeholder

Other respondents noted that the conflicted relationship between the MCI and NBE had also helped spread misinformation around key issues such as the equivalence of MD and DNB degrees [A12, A17]. For example, some respondents of MCI-affiliated medical colleges were resistant to starting DNB programs for fear of punitive action by MCI; other medical college respondents noted that this was inaccurate, and one had even started a DNB course [A3, A29, A31].

Respondents also commented on the challenges that evolved from giving MCI a role in both regulation, and in innovation in medical education [A35, A48, A81].

"The regulatory role is so overwhelming it that it has not time for anything innovative or by way of starting new courses or anything….almost 100% of its time is spent in seeing the assessor's report and seeing whether the colleges are approved or not approved, and then having a re-inspection, then getting a second report, what they call a compliance report and then…because everything is time bound so it is all spent only on that unless they separate the regulatory and the innovative aspects it will never improve because the work is too much on one side." Private medical college stakeholder

Respondents noted these gaps within the regulatory architecture have been previously highlighted by academicians within India, and there have been several proposals, and some attempts, to reform medical education [A32, A34, A48, A84, A85, A106, A116]. The most recent period of reform from 2010 to 2013 was punctuated by repeated leadership changes at MCI, resulting in proposed reforms being delayed; pursued through alternate means, such as the courts (as in the case of the National Eligibility and Entrance Test); or abandoned altogether [A7, A14]. Respondents also commented on the thorny issues of politics and corruption underpinning medical education in India, and the implications of these issues on the overall regulatory culture. For example, one respondent noted that recent allegations of corruption against MCI could have factored into the need for MCI to portray itself as a rigorous regulator, and this could be leading it to more frequently deny recognition of postgraduate programs.

The lack of regulation around training program quality was a key area of concern. Respondents noted that accreditation currently emphasizes standards based on infrastructure and counting personnel, and not the quality of the training program (Ananthakrishnan, 2010) [A41, A48, A81, A106]. Respondents also discussed the lack of standardization across MD programs, and between MD and DNB courses [A41, A124]. In the case of emergency medicine, there appeared to be confusion amongst respondents regarding what a curriculum is meant to entail, whether MCI can or should prescribe such curricula (at the time of writing, a curriculum had not been formally notified by MCI in emergency medicine despite the course being offered for 6 years). However, two respondents commented that medical colleges sometimes shirked their responsibilities around course and curriculum innovation, preferring to scapegoat MCI, without taking the necessary internal steps to elevate the quality of their programs [A3, A7].

Respondents also discussed the lack of guidance on how to appropriately regulate "unrecognized" programs, such as postgraduate fellowships and certifications in various specialties offered by medical colleges and hospitals [A42, A52, A122]. This is particularly relevant for emerging specialties, as professional associations or institutions might take the lead in organizing training activities, when formally recognized options are unavailable. For example, in the field of Emergency Medicine, a number of residency-style training programs (often with HIC institutions) emerged during the period of inaction with MCI and NBE. These programs are subject to regulatory oversight, but remain popular with students [A18, A22, A26, A47, A62]. Unfortunately, the flourishing of these courses creates a problem once regulated courses finally emerge, as dismantling

those programs leads to considerable tension within stakeholder networks [A4, A5, A19, A21, A47, A62]. Furthermore, MCI has been inconsistent in their monitoring of these programs; typically, the institution has not interfered in the function of unrecognized programs, but in 2016, took the unusual step of deeming two unregulated Masters programs in EM 'illegal' (Times News Network, 2016).

Finally, respondents raised repeated concern pertaining to faculty criteria and development, including what was considered inflexible ratios between faculty and students, and what were considered overly restrictive criteria to become faculty in medical colleges (difficulty securing funds for permanent positions, lack of joint appointments, etc.) [A3, A13, A23, A24, A34, A41, A56, A84, A99, A122, A125]. For example, MCI did not grant recognition to nearly all eligible EM courses in 2015, with one of the major reasons being that faculty selected for those programs did not meet the criteria (MCI Meeting Minutes). Many stakeholders in EM found faculty development to be the most serious barrier to the expansion of the course [A3, A23, A24, A34, A41, A56, A112, A122, A125].

At the state- and medical college-level, respondents identified inconsistencies in the regulatory system for postgraduate medical education, including the perception that the need or demand for a particular course is assessed in an ad hoc manner by medical college leadership [A122, A125]. Other respondents noted that the considerable investment of time and resources per additional seat created disincentives for state-level stakeholders, such as the DME, University leaders and/or medical college leaders, to

initiate new courses, such as Family Medicine, that might not perhaps provide an adequate "return on investment" from their perspective [A84, A122, A52, A123, A125]. Recent efforts to spread the reach of specialties to rural populations through the NBE at District Hospitals are a new strategy yet to be fully implemented or evaluated.

Discussion

Before discussing the key findings from this analysis, I will acknowledge the limitations of this study. First, while I gathered data from regulatory institutions and stakeholders from several specialties, the majority of data collected for this study pertained to the development of emergency medicine in India; therefore, this analysis might reflect this bias. In this chapter, I attempted to address this issue by utilizing data from other new medical specialties wherever possible. Second, due to the need to limit the focus of the dissertation to the primary policy objective of the EM stakeholder community, the recognition of EM by MCI, my study was resultantly focused largely on the functioning of MCI, and therefore, this analysis places more emphasis on the functions, processes and mechanisms in that particular system. To address this limitation, I have attempted to incorporate data on the NBE, the Institutes of National Importance and other forms of program to the extent possible with my available data.

This mapping of the regulatory architecture of institutions involved in postgraduate medical education in India reveals layers of complexity in the system, similar to other aspects of health sector regulation in India (Sheikh et al., 2013, Peters and

Muraleedharan, 2008, Baru, 2013). The historical context of these institutions provides some explanation for the plurality that exists today. Bloom et al. (2014) note that regulatory systems in LMICs exhibit path dependency, noting that these institutions evolve based on specific historical, political and socio-economic factors that are challenging to reverse or replicate. The three key sub-systems – MCI, NBE, and the Institutes of National Importance – appear to exemplify this phenomenon, given that their establishment is rooted in India's colonial-era ties to Great Britain, and its post-colonial desire for equivalence and modernity (Maru, 1985). These sub-systems over time have come to operate in an independent and ad-hoc manner, resulting in both complementary and competitive dynamics. The regulatory landscape therefore has multiple trajectories to recognize specialties or initiate courses, resulting in a complex environment that specialty advocates, students and other stakeholders find challenging to navigate, and where misinformation abounds. Further, the accumulation of power by various institutions and individuals in this system has greatly impeded the ability to engage in meaningful reform. The Report of the Parliamentary Standing Committee on Health and Family Welfare has stated forcefully that the current system of postgraduate medical education is deeply flawed and confusing, and has proposed a streamlining of the various regulatory sub-systems (Parliament of India, 2016).

One consequence of the plurality of institutions within the regulatory architecture is role confusion and fragmentation of authority. I posit that this role confusion has created a vacuum of responsibility in the overarching systematic planning, coordination, and implementation of specialty development. Regulatory frameworks are needed to ensure

that the health sector operates in a way that, at a minimum, does not undermine social objectives, and ideally, promotes their achievement (Doherty, 2015, Busse, 2003). The orientation of regulation towards equity not only applies to the state, but arguably to the professions as well, given that self-regulation is underscored by the necessity for the profession to meet its ethical obligation to society (Iyer, 1999). However, the combination of inconsistent state intervention by MoHFW and politicized self-regulation by MCI has allowed for this vacuum and ad-hoc policy process to emerge, a serious flaw in the architecture as it effectively delinks the growth of specialties with the broader health system. Achieving further clarity in this regulatory dynamic between 'command and control' and self-regulation is necessary to avoid the challenges faced by new medical specialties. Further, clarifying the regulatory structure can help ensure that professional associations have a clear understanding of their roles and responsibilities, and that discussions pertaining to health systems strengthening and public health are closely linked with the overall process of medical specialization.

Accreditation in medical education serves as a 'seal of approval' for the technical competence of the personnel trained by a particular institution (Busse, 2003). This analysis highlights the lack of attention and role confusion within the MCI system regarding curricula, the robustness of which is central to the excellence of a postgraduate training course. Further, MCI, NBE and the Institutes of National Importance are not beholden to adopt the same curriculum; a consequence of this approach is the lack of standardization for training programs, a major issue in the development of new medical specialties that are seeking to establish trust with stakeholders from other specialties, and

from the public. An argument for the current market-driven approach is that evolutionary forces will eventually shape the contours of the field, allowing the competencies and boundaries of the specialties to emerge over a period of time. However, a drawback of allowing such evolution to take place in a system without adequate oversight, as is the case with the MCI system, is the lack of quality assurance over provider skills in the short-term, and in the long-term, the potential for curricula to be defined by elite institutions where specialties tend to flourish, rather than in the context of the needs of poorer and/or rural communities (Sood, 2008). Furthermore, allowing the curriculum to evolve from this decentralized approach might only further the existing domination of political, professional, regulatory and educationist influences in curriculum development, at the expense of students and patients, arguably the stakeholders most directly impacted by these processes (Sood, 2012).

Previous studies on health sector regulation in LMICs have found discrepancies between formal regulatory mechanisms and their enforcement (Doherty, 2015, Bennett, 1994, Hongoro and Kumaranayake, 2000). In India, a challenge in postgraduate medical education appeared not to be the lack of enforcement of certain mechanisms pertaining to the quality of programs, but the immense workload of the regulatory institutions brought on by pursuing enforcement, and from the perspective of the medical colleges, the rather subjective nature of the inspections that are the key instrument of enforcement. The high workload for the MCI committees highlights a challenge with institutional capacity, a finding that supports a similar assertion by Sheikh et al. (2013) regarding health sector regulatory institutions at the state-level in India, and in research from other LMICs

(Busse, 2003 , Doherty, 2015). While increasing capacity is certainly an urgent requirement for regulatory institutions, attention must also be turned towards whether the responsibilities are in fact too broad for any one organization, and whether the structural changes proposed with the National Medical Commission will ensure that a focus on academics and innovation in postgraduate medical education is given due importance.

Conclusion

This chapter on the regulatory architecture of postgraduate medical education in India highlights several key themes that will inform the next chapters. First, several paths of medical specialization exist in India, including two regulatory institutions, the Institutes of National Importance, and unrecognized postgraduate training. Stakeholders seeking to advance the idea of a specialty often navigate this complex environment with incomplete or inaccurate understandings. The diversity of paths also results in numerous types of training programs that further bifurcate existing gaps between the public and private sectors, and are often uncoordinated and not standardized. Second, some respondents reported role confusion within this system of regulatory architecture, particularly around which institution should hold responsibility for the systematic, planned development of specialties. Furthermore, the reported confusion around curriculum adds further ambiguity to the system, and exacerbates the aforementioned issues of standardization. Role clarity amongst the actors involved in this system will help ensure that stakeholders fully understand their roles and responsibilities, particularly in the context of ensuring the linkages between specialization and equity. Finally, the overwhelming emphasis on

enforcement in the MCI system appears to indicate that while capacity must certainly be increased to manage the workload, future reform of the system must also consider an expansion of institutional structures to meaningfully address both regulation and innovation in medical education. The next chapters will examine the development of EM as a medical specialty in the context of this architecture.

Chapter 3: The Prioritization of Emergency Medicine Specialization in India: A Policy Analysis

Introduction

The previous chapter described the regulatory architecture of postgraduate medical education in India, presenting a complex system with multiple, uncoordinated avenues for training new specialists in the public and private sectors. Uniquely, India has three independent streams for introducing and regulating training in medical specialties – the Medical Council of India (MCI), the National Board of Examinations, and the nine 'Institutes of National Importance', including the All-India Institute of Medical Sciences (AIIMS) (Ananthakrishnan et al., 2012, Sood, 2008). Outside these three streams exist a plethora of postgraduate training programs not formally overseen by regulatory institutions, such as certifications, fellowships and Masters programs. MCI is often considered the most important of these regulatory institutions, given its primacy over medical colleges, and stakeholders seeking to establish a specialty in the country appear to most often seek formal recognition from the MCI (Pothiawala and Anantharaman, 2013, Rajagopal, 2015). However, the institution has been mired in controversy over allegations of corruption for over two decades, and its decision making structures and processes have remained a 'black box', and difficult to decipher (Parliament of India, 2016, Baru, 2015).

Recent broad specialties that have emerged in India include Family Medicine, Infectious Diseases, Palliative Medicine and Emergency Medicine (Subhan and Jain, 2010, Pal et al., 2014, Rajagopal, 2016c). The available literature regarding the growth of these specialties, largely first-person accounts, describe an uneven journey in gaining the attention of MCI and other regulatory institutions, and in obtaining formal recognition from MCI (Rajagopal, Pothiawala and Anantharaman, 2013, Pal et al., Arora, 2013). These accounts also touch upon the formation, and in some cases eventual fragmentation, of professional associations, groups meant to serve as platforms for collective action for specialty stakeholders. International actors, from independent practitioners to professional associations, have also been described to play a major role in brokering knowledge of specialties between HICs and India (Mascarenhas, 2011, Pothiawala and Anantharaman, 2013). While there appear to be broad trends in how medical specialties emerge and gain political priority in India, there are also numerous gaps in our understanding of how and why these processes unfold in the way they do.

Emergency Medicine (EM) is an example of a recent medical specialty that highlights some of these broad trends. Existing accounts suggest an expansive network of stakeholders involved in promoting the field, including public and private sector medical colleges, private sector hospitals, and international stakeholders, including members from the Indian diaspora, from the U.S., U.K., and Australia (Arora, 2013, Pothiawala and Anantharaman, 2013). These stakeholders formed national and regional professional societies and advocated repeatedly with the MCI over a nine-year period for formal recognition of the field, which was ultimately obtained in 2009. Despite the many

positive contributions to strengthening emergency care in India during this interim period of advocacy, other developments included rising conflict within the stakeholder network, the initiation of training courses outside the formal medical education system, and a largely urban, private sector orientation (Pothiawala and Anantharaman, 2013, Douglass et al., 2015, Cameron, 2015). This seemingly uneven trajectory of EM in India suggests that hitherto hidden factors facilitate the prioritization of certain specialties, particularly in the context of MCI.

First-person accounts on the development of EM in India raise several questions pertaining to how and why EM gained political priority with MCI. Exploring the development of EM through the lens of agenda setting, the 'issue sorting' stage of the policy process where a few issues rise to the top of decision makers' agendas, allows us to systematically tease out answers to these questions (Walt et al., 2008, Carpenter, 2007). How did the idea of EM emerge in India, and who promoted these ideas? How were policy solutions framed? How did actors engage with decision makers to promote these policy solutions, such as the MCI? What were the contextual factors underlying these processes? How did the overall system of medical education in India shape the development of EM programs? Put more simply, how, and why, did the specialization of EM in India become a predominant policy option for intervening in the poor quality of hospital-based emergency care? (David et al., 2007)

Answers to these questions could help us understand how, and why, medical specialties develop in India, and further, may contribute to a more developed understanding of how

specialization may more effectively improve health outcomes, and strengthen health systems. Exploring these questions also provides a unique opportunity to understand the largely hidden dynamics within the stakeholder network, and in advocacy seeking formal recognition with regulators such as MCI. Utilizing the Shiffman and Smith (2007b) framework to examine issue ascendance in global health, my goal is to explore how and why the issue of emergency medicine as an academic specialty in India gained political priority within the MCI, from the period of its emergence in the late 1980s to its formal recognition in 2009. I will specifically explore the following research questions:

1. How and why did the concept of EM receive attention in India in the late twentieth century?
2. Why did stakeholders in India prioritize the recognition of EM by MCI as a key policy objective?
3. How and why did stakeholders organize to achieve this policy objective?
4. What are the implications of these advocacy efforts on the policy agenda for the EM stakeholder community?

Conceptual Framework and Methodology

This chapter specifically focuses on the period between the late 1980s and 2009, beginning with the first inroads of EM within India and culminating with the recognition of the specialty by MCI in 2009. The phenomenon of EM gaining status as an academic

specialty was chosen as a representative or typical case of the emergence of 'new' or emerging specialties in India (Yin, 2009).

Conceptual framework: The dynamics underlying the formal recognition of EM as a medical specialty in the context of the Medical Council of India are akin to the issues of how and why certain policy issues rise to the top of decision makers' agendas (Walt and Gilson, 2014). Therefore, to design and analyze this case I drew upon theoretical frameworks and commentary regarding prioritization of policy issues, with an emphasis on frameworks specific to, or often applied in regards to the health sector (Shiffman and Smith, 2007b, Walt and Gilson, 2014, Kingdon, 1995). I analyzed the data largely utilizing a recent framework around issue ascendance in global health that has been applied to numerous analyses examine political prioritization in the health sector (Shiffman and Smith, 2007b). Shiffman and Smith advance the notion that there are four main determinants to why a particular global health issue gains (or does not gain) political priority – actor power, ideas, political context and issue characteristics (Table 12). Shiffman and Smith's framework was initially intended for examining global-level dynamics; however, the framework has been increasingly applied within national contexts (Walt and Gilson, 2014, Schmidt et al., 2010, Smith and Neupane, 2011). I supplemented Shiffman and Smith's work with a commentary on their framework by Walt and Gilson (2014) by incorporating a select number of suggested modifications to the framework – (1) replacing the term guiding institutions with guiding organizations; (2) incorporating a focus on contestability within the issue characteristics category; and (3) translating global governance structures to national governance structures in the case

of country case studies. I also viewed the framework iteratively, and adapted certain characteristics of the framework to best reflect our case; for example, I consolidated the factor of indicators into the factor describing severity, and also expanded the notion of 'objective measures' to include anecdotal evidence of quality of care.

Table 12: Framework on factors influencing global and national agenda setting (Shiffman and Smith, 2007a, Walt and Gilson, 2014)

Category	Description	Factors shaping political priority	Adaptions for this study
Actor power	The strength of the individuals and organizations concerned with the issue	1. Policy community cohesion: The degree of coalescence among the network of individuals and organizations centrally involved with the issue	
		2. Leadership: The presence of individuals capable of uniting the policy community and acknowledged as particularly strong champions for the cause	
		3. Guiding institutions: effectiveness of organizations with a mandate to lead the initiative	Adapted the term guiding institutions to guiding organizations
		4. Civil society mobilization: The extent to which grassroots organizations have mobilized to press political authorities to address the issue	
Ideas	The ways in which actors understand and portray the issue	5. Internal frame: The degree to which the policy community agrees on the definition of, causes of and solutions to the problem	
		6. External frame: Public portrayals of the issue in ways that resonate with external audiences, especially the political leaders who control resources	
Political contexts	The environments in which actors operate	7. Policy windows: Political moments when conditions align favorably for an issue, presenting opportunities for advocates to influence decision makers	
		8. National governance structure: The degree to which norms and institutions operating in a sector provide a platform for effective collective action	

Issue characteristics	Features of the problem	9. Severity: The size of the burden relative to other problems, as indicated by objective or subjective measures such as quality of care.	Given the largely subjective accounts of poor quality of emergency care, combined the categories of severity and credible indicators to focus specifically on severity of the problem
		10. Credible indicators: Clear measures that show the severity of the problem, and that can be used to monitor progress	
		11. Effective interventions: The extent to which proposed means of addressing the problem are clearly explained, cost-effective, backed by scientific evidence, simple to implement, and inexpensive	Included a focus on contestability regarding the suitability of the intervention

***Data collection**:* I used three forms of data collection for this study – in-depth interviews, document review, and non-participant observation. The Institutional Review Board at the Johns Hopkins School of Public Health (JHSPH) provided ethical clearance for this study. An Ethics Committee of the Centre of Social Medicine and Community Health at Jawaharlal Nehru University, New Delhi reviewed study protocols and concurred with that decision.

In-depth interviews: I developed a semi-structured interview guide based on our research questions, relevant theoretical frameworks pertaining to agenda setting and a brief document review (Kingdon, 1995, Shiffman and Smith, 2007b). The interview guide consisted of open-ended questions, allowing space to explore emerging ideas (Bernard, 2006). We selected potential respondents through two forms of purposive sampling – maximum variation and snowball sampling (Patton, 1990). I conducted data collection from March 2015 to December 2015, with the majority of interviews taking place in-person in India in 11 locations (primarily large metropolitan areas). I contacted potential respondents by phone, email and/or in-person. Three respondents declined to be interviewed, six potential respondents did not respond to requests, and three respondents expressed interest but were unable to commit to a date and time for the interview.

I conducted a total of 87 interviews with 76 respondents. 72 interviews were conducted in-person, seven over the phone, and eight by Skype. Eleven respondents were interviewed twice. Verbal consent was obtained from all respondents, and interviews were audio-recorded wherever possible. During each interview, I took extensive notes by

hand and shortly after the completion of the interview, summarized the content of the notes in the form of memos. Audio-recorded interviews were transcribed verbatim by a contracted transcriber. After receiving the raw transcripts, I de-identified, cleaned and reviewed the transcripts for accuracy. Each respondent was assigned a code during analysis. In order to protect the respondents' identities, I have only reported the broad categorizations to which the repondents belong (Table 13) and are withholding their organizational affiliation, geographic location, and demographic characteristics.

Table 13: Number and categorization of in-depth interview participants

Organizational categorization	**Number of respondents**
Current and former Ministry of Health and Family Welfare officials	3
Current and former regulatory institutions officials	12
Development partners officials	2
Emergency medicine professionals	47
National emergency medicine professionals	
International emergency medicine professionals	
Medical college leadership	6
Other new medical specialties stakeholders	5
Media representatives	1
Total	**76**

Document Review: I sourced documents for this study from a desk review, and through snowball sampling with my interview respondents. 122 documents drawn from the broader study were used specifically in this analysis (Table 14).

Table 14: Classification of documents included in the analysis

Document category	Number of documents
Archival materials	3
Government reports (for example, National Human Rights Commission, Ministry of Health and Family Welfare)	4
Emergency medicine stakeholder meeting minutes and reports	41
Grey literature on emergency medicine in India	15
MCI meeting minutes	31
Correspondence with MCI	4
Institutes of National Importance reports	1
Media reports	13
Scientific articles	10
Total	**122**

I analyzed the above documents in terms of their relevance to the development and prioritization of emergency medicine from the late 1980s until 2009, I then entered relevant summarized information into a case study database (Yin, 2014).

Non-participant observation: The third method was non-participant observation, which triangulated data points, strengthened inferences and contributed additional insight not otherwise gained from informants or document review (Maxwell, 2005). Maximum variation and snowball sampling were utilized to purposefully select settings for observation. I observed a total of six meetings – three national-level EM conferences, two 'high-level' expert meetings on topics related to EM and one state-level conference on health systems. I obtained permission from organizers of each of these conferences to attend and observe the proceedings, and took extensive handwritten notes, which were later summarized in the form of memos.

Analysis: For the analysis, I utilized a version of the 'framework' method, a common analytic approach in policy research (Gale, 2013) (Figure 2). The coding approach combined inductive and deductive approaches (Gale, 2013). I first developed a set of codes based on the conceptual framework, and then built on this list by reviewing memos generated from the 87 in-depth interviews, six observations and select documents to prepare an initial list of codes. I then conducted line-by-line coding on six transcripts, from which we further inductively generated codes (Charmaz, 2006). I then applied the new codebook to an additional seven transcripts, and based on this process, condensed the codes into a final list in consultation with my primary advisor. I then applied this final codebook to an additional 33 transcripts that were selected for in-depth coding due to the richness of the data presented in those interviews. Based on the four broad categories presented in the framework – Actor Power, Ideas, Political Context and Issue Characteristics – I analyzed the data and generated sets of themes. These themes were entered into a role-ordered matrix (Miles, 2014). The remaining 41 interview transcripts and/or memos, relevant documents identified from the case study database, and observation data were reviewed to confirm or disconfirm themes, and present new information wherever possible. I then engaged in respondent validation with three key informants by discussing certain findings and incorporating their feedback into the analysis during in-person meetings in September 2016 (Gilson et al., 2011b). I have also shared the draft of the findings with four respondents; one respondent has responded as of March 2017 with feedback.

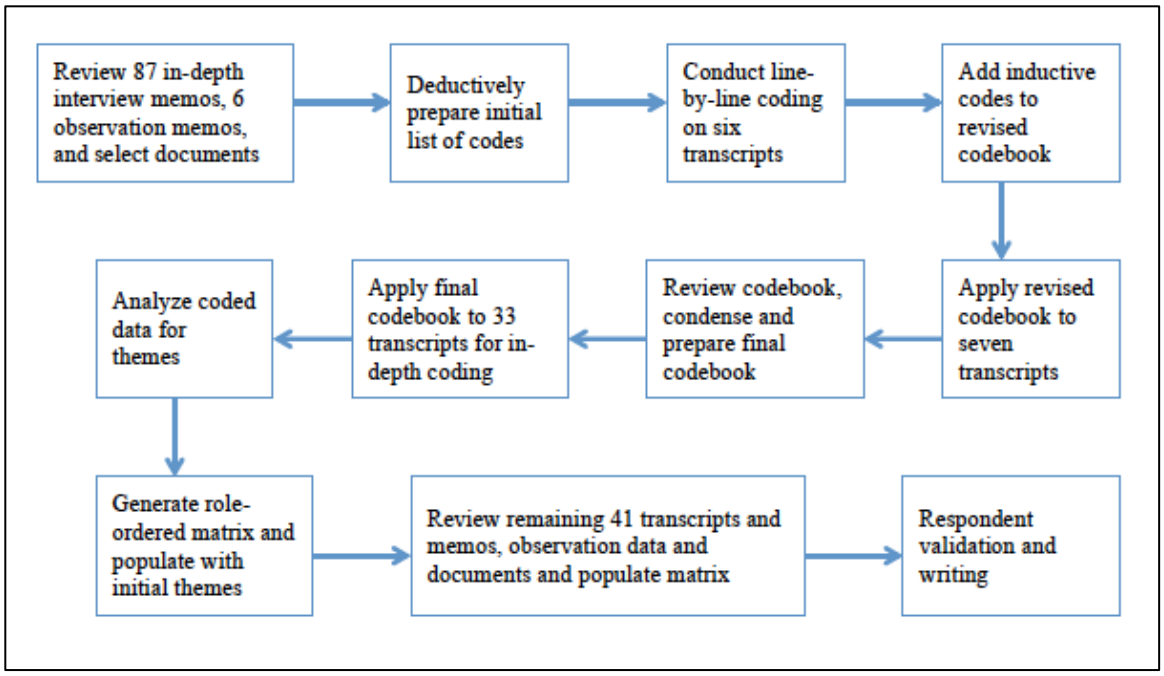


Figure 2: Steps taken in analytic approach

Results

My findings have been categorized into two sections. The first section provides a brief summary of the key milestones in development of EM in India, anchored by the events noted in Table 15. The second section then provides an analysis of the political prioritization of EM building on the conceptual framework described earlier.

Table 15: Chronology of key events in the trajectory of Emergency Medicine

Time period	Year	Key Milestones	Contextual Factors
1960s	1965		1965 Immigration and Nationality Act in the United States
1970s-1980s	1971-1988	MCI recognizes Accident and Emergency Medicine as a specialty	
	1982	Association for Trauma Care of India is formed	
	1984		Bhopal Gas Tragedy
	1987		National Conference on Disaster Management in New Delhi
1990s	1991		Government of India policies for economic liberalization initiated
	1992	All-India Institute of Medical Sciences initiates plans for postgraduate course in Emergency Medicine	
	1994	Sundaram Medical Foundation establishes first formal private sector 'Emergency Departments'	
	1994	Christian Medical College, Vellore starts a one-year fellowship in Emergency Medicine	
	1999	First national conference and formal inauguration of Society for Emergency Medicine, India	
	Oct 2000	Medical Council of India removes Accident and Emergency Medicine from list of recognized fields	
2000s	2000	Academy of Traumatology (Gujarat) is established	
	Jan 2001		Bhuj Earthquake
	Feb 2001	American Academy of Emergency Medicine in India is established	
	2002	Sri Ramachandra Medical College, Chennai offers MD in Emergency Medicine	
	2005	First Indo-US Emergency and Trauma Collaborative Summit takes places in Delhi	
	2005	First residency-style program organized by Apollo Hospitals, Hyderabad, in coordination with Royal College of Emergency Medicine (UK)	
	2005		Indian Ocean Tsunami
	March 2007	National Human Rights Commission sends recommendations on EM	

		from National Review on Health	
	July 2007	First Masters of Emergency Medicine course offered at Malabar Institute of Medical Sciences (Kerala)	
	Feb 4 2008	Sub-Committee of Medical Council of India meets to discuss National Human Rights Commission recommendations, including recommendation to start EM	
	July 2009	Medical Council of India approves EM as 29th specialty	
	May 2010		
	May 2010		Medical Council of India is dissolved by President's Order
	2010	BJ Medical College and NHL Medical College (Gujarat) granted permission to begin MD courses	First Board of Governors instituted
2010s	2011		
	2013		Second Board of Governors instituted
	Dec 2013		Third Board of Governors instituted
	2013	National Board of Examinations formally recognizes EM	Medical Council of India reinstated with Jayasreeben Mehta as President
	July 2014 – Dec 2015	De-recognition of 11 permitted MD courses by Medical Council of India	

Summary of the development of EM in India

The development of EM as a medical specialty in India ostensibly grew out of a perceived need to improve the failing system of emergency care, a system marked by poor quality, limited coordination, and inadequate prioritization. Respondents discussed serious deficiencies in the organization of emergency care, such as overcrowding, insufficient and under-qualified staff, and worsening quality of care, particularly in the public sector. In parallel, a new specialty focused on emergency care in the hospital setting was forming in HICs. EM first began to develop as a specialty during the 1960s in the US. As the concept of EM as a specialization gained traction in HICs, a few examples of diffusion to India appeared in the early 1990s in both public and private sectors: -

1) All-India Institute of Medical Sciences: The All-India Institute of Medical Sciences (AIIMS) in New Delhi, established in 1956 as the apex institution for research, teaching and innovation in medical education in the country, wields considerable technical and bureaucratic clout in the Indian context. Emergency care at AIIMS reportedly began to suffer during the 1980s, possibly due to increased patient loads, leading to some institutional leaders advocating for reform. Following an exchange program in the UK in the late 1980s, in 1992, a faculty member proposed the first formal training program for EM in the country. However, due to internal disagreements, progress on establishing the program stalled from 1992 until 2012.

2) Apollo Hospitals and private sector hospitals: The interest of Apollo Hospitals, an Indian health care company founded in 1983, was driven in large part by the exposure of its Chief Executive Officer to health care in the US. The CEO began to make connections with other EM stakeholders in India from the early 1990s, and authorized the establishment of formal Emergency Department services in the Apollo system in the mid-1990s. Other private hospitals, such as Sundaram Medical Foundation in Chennai, promoted the field from the early 1990s, establishing the first private sector Emergency Department in the country.

3) Private medical colleges: Facilitated by exposure and training to EM in HICs, private medical colleges in the southern states of Karnataka and Tamil Nadu, such as Christian Medical College (Vellore) and St. Johns Medical College, began establishing Emergency Departments from 1994 onwards. Similarly, Sri Ramachandra Medical College in Chennai, Tamil Nadu began to organize postgraduate training in EM from 2000, driven by their Dean, who at the time was a repatriated member of the Indian diaspora.

4) Academy of Traumatology and Ahmedabad Orthopedic Society: The massive earthquake in the western state of Gujarat in 2001 spurred some medical college leaders to actively explore options for improving emergency care in the state. Some of these stakeholders travelled abroad and gained exposure to EM on their visits, while others trained in HICs and decided to return to India. Together with the active Gujarati diaspora in the US, these stakeholders coalesced to advance system-wide emergency care reform,

including pre-hospital emergency care, short-course training programs in hospital-based care and later, postgraduate training in EM.

Supplementing and in some cases, contributing to the motivations of these actors were a number of important broader contextual factors that played a key role in the development of the specialty. A critical contextual factor underlying the growth of EM was the unprecedented economic shift during the 1990s towards privatization of the Indian health care market, facilitating growth of corporate hospitals such as Apollo and Fortis. These hospitals, along with an explosion in the numbers of private nursing homes and hospitals, led to hospitals urgently seeking to differentiate themselves by developing specialist care (Deloitte, 2013). The growth in specialist care impacted the decision making of medical students, leading to more students selecting specialization and super-specialization. Furthermore, a series of natural and manmade disasters such as the Bhuj earthquake and, and the Indian Ocean tsunami in 2004, conveyed a growing perception that the country's emergency response systems were sorely lacking. These disasters also led to the formation of the National Disaster Management Authority, a federal level institution that became an advocate for EM within the government. During the mid-2000s, pre-hospital care, in the form of ambulances, began to gain the attention of policymakers in multiple states. The increasing attention towards ambulances also fed into a broader push to enhance road safety and trauma care, in part due to a campaign launched by the WHO.

Shifts within the medical profession also appear to have facilitated the growth of EM. From the mid-2000s, there was a skyrocketing in employment opportunities for Indian

graduates to work in Emergency Departments in HICs, providing a major incentive for students to pursue formal training in recognized and unrecognized EM programs. The emergence of international standard certification courses from the early 1990s, such as Advanced Trauma Life Support (ATLS), Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS) and the National Trauma Management Course seemingly raised interest and awareness in emergency care, preparing the ground for more intensive EM training. Finally, the evolution of General Medicine as a 'feeder' for super-specialization during the 2000s also enabled the development of EM by reducing the commitment of Internal Medicine to emergency departments and casualty wards.

In 1999, the first national association for EM, the Society for Emergency Medicine, India, was formed. SEMI's membership included private sector and medical college representation, and the group worked closely with actors from HICs such as the US, UK, Australia, Israel and Singapore. These efforts were largely driven by members of the Indian diaspora, who were able to combine their passion for promoting their chosen field, with their prior knowledge of systems, culture and attitudes in India. These international actors also pursued activities such as the development of international residencies, participated actively in SEMI's annual conferences and helped launch training programs. As the 2000s progressed, SEMI faced serious internal divisions largely due to ideological differences pertaining to academic training and the role of the private sector. These disagreements resulted in a permanent fracturing of the network, with the formation of a parallel group, the Indo-US Emergency and Trauma Collaborative (INDUS-EM). INDUS-EM, a partnership comprised of AIIMS, public and private medical colleges and

international actors, decided to focus largely on academic training within medical colleges, and engagement with government agencies.

Almost all EM stakeholders in India believed that postgraduate training in EM was of paramount importance to building the specialty, and most believed that MCI's recognition of the course was an essential policy objective. Beginning in the late 1990s, organizations and individuals in the network actively pursued formal recognition from MCI. Their reasons for doing so largely pertained to a need to develop more specialists, create a pathway for formally qualified practitioners, and a need to forge an identity within the medical profession. Advocacy most occurred through formal and informal meetings with MCI leadership and administrative staff, letters, and invitations to MCI members requesting their participation in annual conferences. Advocacy efforts were uncoordinated across the network, and SEMI, INDUS, the Academy of Traumatology, and other groups pursued their own independent course of action with MCI.

During the period of inaction from MCI in the 2000s, some EM stakeholders decided that other courses of action for postgraduate training needed to be pursued. EM stakeholders had been lobbying the National Board of Examinations for a postgraduate course as early as 2000, and NBE came close to recognition in the mid-2000s. However, internal delays at NBE stalled progress until 2011, when SEMI and the NBE began to work closely together to develop the course. Several private institutions also began pursuing options for postgraduate training programs, often in collaboration with international stakeholders, such as the Royal College of Emergency Medicine and George Washington University

(GWU). Some of these courses, such as the Masters of Emergency Medicine course offered by private hospitals and GWU expanded quickly, and within a few years, an entire parallel set of postgraduate courses began to flourish outside the regulatory system.

Within MCI, decisions pertaining to new specialties were often left up to the Postgraduate Committee, the body within MCI tasked to manage all affairs related to postgraduate education. That committee did not decide on the fate of EM from the early 2000s, until 2007. That year, members of the Academy of Traumatology from Gujarat utilized their networks to request that MCI formally approve EM in order to enable these actors to start formal training programs in Gujarat. This request, alongside advocacy efforts with MCI from other groups appear to have paid off when the Executive Committee took up the matter of EM recognition between 2008 and 2009. EM was formally notified on July 21, 2009 as the 29th specialty in the Gazette of India, and this decision was widely celebrated by EM stakeholders. Interestingly, the trajectory of EM overlapped with a period of intense reform within the MCI, following the arrest of the MCI President in 2010 due to alleged corruption. From 2010 to 2013, Boards of Governors were installed to oversee the MCI's functioning; it was during this time that MCI began to develop the operational policies to guide training in the specialty, the process of which is described in the next chapter. NBE followed four years later by recognizing EM in 2013. That same year, MCI's previous leadership was installed back into power.

By the end of 2015, progress with EM was seemingly mixed. Emergency Departments began to emerge in urban and peri-urban centers around the country, offering more organized, and reportedly better quality, emergency care for patients, and serving as a key source of employment for graduates from the myriad training programs being offered. The Ministry of Health and Family Welfare began designing a 'National Emergency Life Savings Skills' Course, a short-course training program for frontline health workers in primary and secondary health facilities, in collaboration with an independent committee of experts (some of whom were associated with INDUS and SEMI). However, conflict and distrust within the emergency medicine network appeared to reach a peak. National and international stakeholders clashed over the fate of the Masters of Emergency Medicine courses, with some Indian stakeholders advocating for a transition to the NBE system. Furthermore, a small group of pediatricians and EM stakeholders began to advocate for a separate MD in Pediatric Emergency Medicine, against the wishes of the wider EM network. SEMI and INDUS were also engaged in parallel efforts to introduce mandatory emergency care legislation similar to the Emergency Medical Treatment and Labor Act (EMTALA) in the US. Finally, existing allegiances between the professional associations and regulatory institutions began to shift, with NBE engaging more with INDUS-EM, resulting in a weakening in the relationship between SEMI and the NBE.

Analysis based on conceptual framework

Actor power

Guiding organizations: The professional associations formed by EM stakeholders appeared to be the primary guiding organizations in this case. The efforts of these organizations were seemingly all the more crucial given the lack of emphasis on specialty development within MCI.

"…they (MCI) also will not do the groundwork to start a course. Someone else has to do that. But somebody needs to do the labor right? I mean the MCI wouldn't go and initiate that leg work, spade work that you need to do to put the document or... to take a call."
Private sector stakeholder

SEMI, INDUS-EM and the other professional associations allowed for likeminded individuals to organize around a policy and training agenda and channel their resources accordingly [A4, A24, A26, A42, A45, A66, A88, A93]. These professional associations also served as platforms for those stakeholders working in an *individual* capacity to inform colleagues about their advocacy with MCI and other policy objectives. In other words, not all advocacy was undertaken collectively; individuals sometimes took the lead in utilizing their networks to reach out to decision makers. These associations further allowed for diaspora-led organizations (for example, AAEMI and the American

Association of Physicians of Indian Origin), medical colleges and institutions in the US, UK and Australia, and other stakeholders to forge close working relationships with actors based in India, and to therefore influence the development of the field [A4, A24, A26, A93]. Some respondents discussed the motivations of diaspora in promoting the field in India, noting that many of them "wanted to see something done in their home country". Respondents from the diaspora also commented on the perceived advantages of their involvement, including credibility, technical expertise, transnational networks, and access to Indian decision makers [A3, A17, A18, A22, A25, A39].

"We expats or those of Indian origin have a vested interest in seeing India prosper and seeing patients get good care. This is where our families are from, and many of us have families here still." International stakeholder

International actors provided considerable technical assistance and knowledge building, but were also able to leverage these platforms to develop partnerships and collaborations for their institutions, such as the Stanford-EMRI partnership and the George Washington University residency programs. In this way, members of the diaspora contributed as part of a collective, but also built on their access and networks by in some cases developing partnerships for their home institutions [A17, A19, A21, A25, A47].

Competition grew within, and later between, professional associations, most damaging of which was the conflict between INDUS-EM and SEMI. The involvement of AIIMS (whose representatives had not been engaged with SEMI since the early 2000s) within

the INDUS-EM partnership was considered highly advantageous for the association, given the enormous technical and bureaucratic power held by the AIIMS [A4, A5, A42, A45, A88, A107]. AIIMS was able to utilize its power and networks to engage with other medical colleges and importantly, government institutions such as MCI. Their involvement was seen as giving a major boost to EM efforts within India, but their prioritization of INDUS-EM over SEMI arguably furthered divisions within the network.

"AIIMS did not participate [in SEMI] because Apollo had stole that thunder from AIIMS. So in India if you are going to push a program in India, if it's proposed by AIIMS it had to be accepted by the Government of India because AIIMS is a set up through an Act of Parliament. If someone is going to put up a proposal…it is a mighty difficult task to get that recognized unless AIIMS says yes this has to be recognized. It doesn't matter whether the AIIMS is right or wrong. AIIMS saying it, that's it." International stakeholder

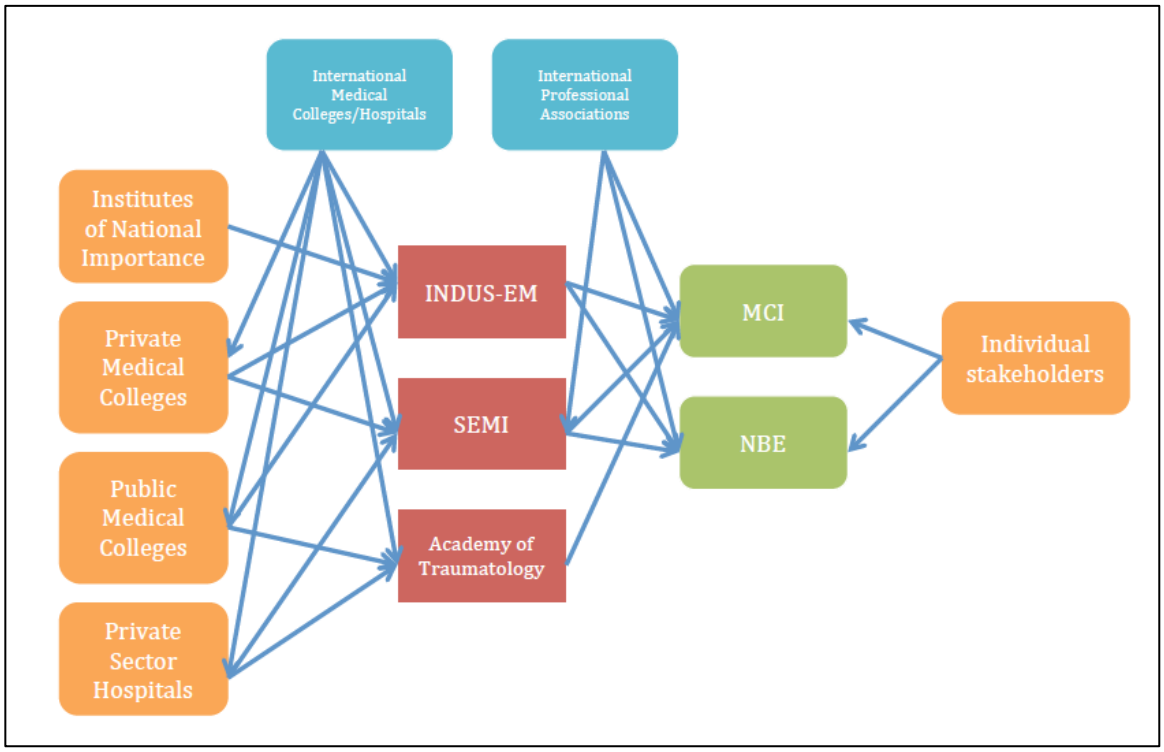
Most respondents agreed that the key areas of contention within and later between the two associations were regarding the role of the private sector and the influence of international actors. SEMI became more closely linked with private sector groups and with AAEMI, while INDUS-EM became a network of Indian and US medical colleges. The Academy of Traumatology operated independently, with strong engagement with members of the diaspora. The groups also engaged with different actors on the global level; for example, SEMI became the sole representative of India to the International Federation of Emergency Medicine, while INDUS-EM engaged with global health organizations such as the CDC and WHO. The groups also appeared to split on regional

lines, with some respondents noting that SEMI worked more actively in South India, while INDUS-EM worked in more Northern states [A19, A45, A56, A112]. Tension also emerged in the relationship between AAEMI and SEMI over the active and visible role of AAEMI in organizing the annual meetings, and also in the view of some, the 'Americanization' of EM in the country. Some respondents, particularly those from the public sector, spoke of rising suspicions around short-course training programs, financial rewards, and the formal recognition of those programs, criticisms that were highly contested by other private sector respondents [A29, A31, A51].

Policy community cohesion: Despite this lack of cohesion, stakeholders shared the same primary policy objective – the recognition of EM by MCI. SEMI, INDUS-EM, the Academy of Traumatology, and a host of other actors acting in either an individual or organization capacity independently approached MCI regarding recognition, utilizing their networks, resources and platforms in order for their message to be heard (Figure 3).

"So I think the leadership at MCI changing, consisting of follow up by different groups at different times, but toward one goal that was they must have had selfish interest, different story, but ultimately they wanted emergency medicine okayed by MCI." Private hospital stakeholder

Figure 3: Stakeholder dynamics in advocacy efforts to recognize EM by regulatory institutions



Some respondents noted that the divide in the network was detrimental to the growth of the field [A2, A14, A18, A24, A39, A80, A124] while a few others took a more optimistic view, indicating that multiple professional associations for one specialty was a common occurrence [A38, A45, A71]. One respondent described the consequences of fragmentation in the following terms –

"Fragmentation, weakening, and ineffectiveness, completely effectual" Former public sector hospital stakeholder

In terms of dynamics between international and Indian actors, a few respondents also discussed the fact that the conflict within the network might have been due to the lack of 'ground rules' or the fact that this is a new area of work [A4, A17, A22]. Some

respondents also talked about the fluid nature of these relationships, noting that relationships between AAEMI and SEMI for example had matured over time.

"The umbilical cord for sure has been cut and the role of AAEMI and other organizations who are trying to support Emergency Medicine is slowly evolving to be something different. Rather than, we are here to help you put on this conference and develop this content and to bring speakers and all that, it's more supporting in other ways, it's more encouragement." International stakeholder

Leadership: Respondents appeared split in their acknowledgement of key leaders for the development of the field in India. Several stakeholders were identified as the 'father' or 'mother' of EM in India, with only a few respondents noting the contributions of individuals outside their own sub-network. One respondent described the lack of a unifying leader in the following terms.

"… the Critical Care Society speaks with a very cohesive central voice. That's the one difference between them and us. They speak with a single voice, they iron out all the differences and they are able to say that this is the voice of Critical Care. We don't have that; we don't have a strong voice for Emergency Medicine in India, neither a person nor an organization. And, usually invariably it starts with a person, right? You need a strong person who sees the larger vision. Nobody has emerged, not as yet." Private sector hospital stakeholder

Civil society mobilization: Civil society, in the form of grassroots organizations or patient advocates, played a peripheral role in the development of EM in India [A4]. Respondents noted that the SaveLife Foundation and the Lifeline Foundation had been engaged with the stakeholder network, even supporting the organization of two national-level conferences in 2010 and 2011. However, their role in promoting academic EM was limited, and a few respondents noted that EM more broadly was lacking an orientation towards community-based approaches, a gap currently being filled by pre-hospital care services [A30, A47, A74].

One respondent explicitly stated that civil society should actually not play a central role in academics.

"NGOs have nothing to do with MCI or academics. Academics was all academics…INDUS is all about structured development of the country and its policies. It's all patient centered." International stakeholder

<u>*Ideas*</u>

The definitions and causes of the problem – the dismal state of emergency care within health facilities – was widely acknowledged and agreed upon by respondents. Through a combination of exposure in HICs and promotion by members of the diaspora and other actors, the concept of EM as a solution to these emergency care issues gained traction in India within the 1990s. Stakeholders appeared to gravitate towards developing

postgraduate training in EM, with the intent to focus on other policy options once the generation of specialists was underway (for example, integration with the health system). External framing was also seemingly aligned; the challenge lay in the internal framing of how to best develop EM in the country beyond MCI recognition.

Internal framing: As EM evolved, there was a sense that the field was 'predestined' to take the direction of an MCI-recognized MD program in medical colleges, and most actors were in agreement that Emergency Medicine should be incorporated in the list of formally recognized specialties in which postgraduate qualifications can be administered, known as the Schedule in the Postgraduate Medical Regulations of MCI. Respondents discussed some of the choices that EM stakeholders made, whether implicitly or explicitly, in coming to this convergence.

1) *Generation of specialists:* Respondents described a straightforward argument for their advocacy – in order to develop a specialty, one requires specialists; to graduate specialists, there has to be a steady supply of these individuals, primarily from medical colleges [A23, A29, A45, A56]. Some respondents also noted that it was essential to have the MCI 'stamp' to facilitate interest amongst young doctors regarding a career in EM, and to ensure that there are long-term career opportunities for these doctors, both critical according to respondents for a trained and sustainable workforce.

"So one of the first things we needed was people who were trained and qualified in it. And, although we were running these training programs an average Indian doctor looks

for an MCI standpoint of any program that they undergo. So that is when we said unless it is recognized and MCI stamp is there, we would not be able to get enough number of people to get interested in the program and take this thing through." Private hospital stakeholder

Respondents noted that EM stakeholders prioritized postgraduate medical education over undergraduate medical education; this view was however contested by a few respondents, who believed that incorporating a stronger focus on EM within the undergraduate curriculum should have been advocated for strongly [A29, A39].

2) *Forging an identity:* Some respondents also noted that an underlying factor for seeking recognition from MCI was the need to forge an identity, and to gain respect in the medical profession [A4, A44, A74]. Broadly, respondents appeared to express a notion that the formal recognition of the specialty was a key milestone in achieving a distinct identity, an identity that solidifies the cohesiveness of the network, and also facilitated the entry of younger doctors.

"…if you belong to a religion, and you don't have a church, you don't have a temple and you don't have a flag then, what religion are you? How do you create your identity?...So every group identifies itself not only for what it is, but what it is not…that demarcation is what my postgraduate gives you, my postgraduate will tell you yeah I am MD in emergency medicine…So that projects me as a person belonging to a church, it gives me an identity. It gives me a career path, it gives me all these various things and as a

collateral it also gives me a voice to speak about emergency care." Former public sector hospital stakeholder

3) *Norms of medical education in India:* Underlying the advocacy was the apparent need by some stakeholders to adhere to norms of medical education in India, largely driven by their own past experiences [A24, A56, A106]. Some of the EM stakeholders had been through the MCI system, and therefore wanted to uphold these long-held processes of generating specialists.

"…that's linked to fact that you know this chaap (stamp) of a degree is very much in the DNA….because the degree is, you know, a thing of respect, it's a strong social prestige factor is there." Former regulator

An important angle was the role of international stakeholders in supporting the idea. Establishing MCI-recognized MD courses is akin to initiating residency courses in the US and other HICs; given the centrality of these courses to the development of the field in those countries, international stakeholders were highly encouraging of this approach, and promoted it actively during conferences and other platforms [A5, A18, A19, A66].

"…our goal was to encourage them to make it became an identified specialty to start specific residency programs in emergency medicine and to help pass on any lessons we have learnt over that 35 years of developing it in the United States." International stakeholder

4) *Retrospective recognition:* Finally, as a few MD courses in EM had been initiated by private medical colleges prior to formal recognition, some respondents noted that obtaining retrospective recognition for graduates contributed to the decision to advocate with MCI for formal recognition of EM, operating under the assumption that a decision on retrospective recognition was negotiable, as MCI had previously recognized degrees retrospectively [A18, A23, A25, A46].

Despite the vast majority of respondents noting the predominance of MCI recognition as the primary policy objective, a few respondents disagreed with this approach. Three stakeholders felt that it was more important to start high-quality training programs, rather than pursue the seemingly difficult task of advocating with MCI [A22, A47, A62].

External framing: Respondents discussed the ways in which the need for EM was often framed for decision makers in terms of both public health and service delivery. Some respondents discussed the use of public health arguments in framing the needs for EM [A18, A22, A19, A23].

"…we did say that at that point of time it was reported that a million people were dying from accidents on the roads and probably 4 times were dying with other emergencies. So we told them that a significant number of these deaths could be avoided if care started at the place where the patient was; whether it's the road or the home or whatever." Private sector stakeholder

Respondents also posited that EM would greatly improve efficiency and effectiveness within hospitals, and distinguished EM as a vast improvement on existing service delivery models for emergency care [A4, A18, A22, A19, A23].

The nature of external framing might have resonated differently depending on the nature of the actor delivering the message. For example, some respondents felt that messages delivered by international stakeholders were taken more seriously than those by Indian stakeholders [A22, A24, A44, A47].

"So, seeing and understanding it from my global perspective, I think was very beneficial being a [US Institution] Professor, gave a lot of credibility to what I was saying, being a person who has authored the textbook on emergency medicine gave a lot of credibility." International stakeholder

Divergence in internal framing and strategy: Despite the convergence of the stakeholder network around MCI recognition, there was significant disagreement about how academic EM should further develop. Stakeholders appeared to have four fundamental disagreements on the growth of academic EM, across the stakeholder network.

The first concerned the post-recognition phase of EM in the MCI context. SEMI, INDUS-EM, the Academy of Traumatology, and some other groups had over the years submitted curricula, faculty development plans, and other operational guidelines to MCI

[A4, A5, A19, A28, A29, A44, A56, A92]. However, given the split in the stakeholder network, these efforts were not coordinated, and following recognition, appeared disjointed [A44]. Ultimately, during the first Board of Governors phase within MCI, the MCI leadership selected a group of four INDUS-EM members to design a curriculum (which was ultimately never released). Furthermore, despite aggressively pushing for specialty recognition, the main stakeholder groups had difficulty in coordinating across the medical colleges interested in starting the course; for example, the first medical colleges to begin were aligned with the Academy of Traumatology, and were not linked to either of the national professional associations. Therefore, courses in the country developed somewhat independently, and were not standardized.

Second was around how the NBE courses, which were approved in 2013, should grow in relation to the MD courses at MCI. INDUS-EM stakeholders were of the belief that the NBE course should not outpace the MD ones, while SEMI stakeholders felt that NBE courses had enormous potential, given the active role of the private sector in EM, and the positive perceptions of NBE as a regulator. From 2011 onwards, SEMI stakeholders engaged closely with NBE in developing the course, resulting in a transnational advisory council for EM and the selection of 60 institutes for initiating the course; interestingly, by late 2015, INDUS-EM became more closely involved with NBE, at the expense of SEMI.

Third was around the issue of retrospective recognition (discussed earlier). Some stakeholders felt that advocating for this policy was disingenuous, while others felt that they were subject to unfair regulations by MCI, specifically since MCI had granted

retrospective recognition to other disciplines [A3, A41, A44, A46]. SEMI stakeholders went as far as to file a court case against MCI in the Madras High Court, demanding their right to retrospective recognition; at the time of writing, the course case was still ongoing.

Fourth and finally was around the prominence of non-recognized, residency-style EM courses, such as the MEM and MCEM courses. Respondents were bitterly divided in their views. One set of respondents was strongly critical of the logistical and financial arrangements underlying the courses, and further, felt that organizing courses outside the regulatory system was against the national interest [A4, A5, A29, A31, A56]. The other set of respondents believed that given the uncertainties within the MCI system, providing alternate training options was a key intervention in meeting the workforce shortages for Emergency Physicians [A18, A22, A47, A62, A116].

There also appeared to be some broader disagreement about how EM fit within a broader systems approach. Stakeholders in Gujarat for example focused more specifically on a wider range of interventions, including pre-hospital care and legislation for emergency care. A few stakeholders noted that EM has been largely focused on metropolitan areas, and not on other aspects of the health system, including rural service delivery [A30, A39, A74].

Issue Characteristics

***Worsening quality of emergency care*:** Respondents were nearly uniformly discussed the serious deficiencies in the quality of emergency care provided in health facilities, in both public and private sectors [A2, A32, A35, A24, A40, A42, A44, A45, A46, A56]. Respondents noted several reasons for this, including patient overcrowding in Emergency Departments due to increased population density, urbanization, and the reputation of certain hospitals in comparison to those around them. Hospital administrators appeared to be particularly sensitive to these concerns, describing the Emergency Department as previously having been the source of the most complaints, and in a state of 'maximum chaos' [A32, A35, A109].

Exacerbating these issues was the staffing of Emergency Departments; typically, doctors handling emergency cases were considered 'the least qualified', even though these patients often required the most serious attention. The system of utilizing consultants from other specialties was also noted to be time consuming, often slowing down treatment, and leaving EDs without committed leadership. A further complication was the legacy of retaining Casualty Medical Officers (CMOs), MBBS-level graduates with limited clinical responsibilities, to manage Emergency Departments in many secondary and tertiary centers, in many facilities under the administrative oversight of the Medical Superintendent of the hospital [A36, A112, Observation Data]. Respondents also noted that CMOs were given tasks that other doctors would not perform, such as interacting with the police, and attending court sessions for medico-legal cases [A36, A124].

One respondent cautioned that questions of worsening quality of emergency care were largely urban-centric issues. For instance, systems of care in rural settings, while certainly subject to numerous influences and factors, do not appear to have undergone any major shifts, beyond the introduction of statewide EMS in the mid-2000s and in some places, the availability of trauma centers along highways. A few public sector respondents also disconfirmed the notion that emergency care was weak, and stated that current systems of care were often sufficient, though not without challenges [A52, A53].

Suitability of EM: Despite the commitment of several stakeholders to the concept of EM, respondents disagreed regarding the extent to which current framings of EM by national and international advocates was a suitable approach for the emergency care challenges experienced in India. An underlying reason for this resistance appeared to be varied perspectives on the exact scope of EM. Respondents noted differing views within their institutions, and with some regulators, regarding whether the boundaries of EM, suggesting that the crosscutting nature of EM left its scope up to interpretation [A53, A56, A81].

Respondents described a scenario of dueling perceptions of EM, with stakeholders responding positively to the idea of EM as a concept from HICs, while a few others appeared more critical of its emergence from those contexts [A14, A29, A31, A42, A71].

"Trauma, people understand very well. Emergency medicine is a western concept, which is slowly creeping in." Former regulator

Furthermore, a few respondents noted that sufficient thought had not been put towards determining the appropriateness of the idea to Indian settings [A21, A29, A53]. For example, one public sector respondent noted the need for a 'purely Indianized' form of emergency care, and others suggested that existing models of EM were perhaps not adequately adapted to India.

"So they used to come in every year, be there for the conference, talk about what they do in the US and then they would go back. I am not in favor of that, you see, because what happens is that you are trying to transplant a system and impose it in an alien environment, and it doesn't really take root and it dies very quickly" Private medical college stakeholder

A few international stakeholders indicated that they were sometimes less open to differing viewpoints on the need for EM within India, indicating that contestability of these concepts were not often encouraged within collective spaces, such as conferences [A18, A22].

Political Context

Policy window: The policy window in this instance appeared to be less of a window caused by external factors, but rather, one where the convergence of multiple forces of advocacy applied enough pressure to facilitate the decision by MCI leaders. Interestingly, the involvement of actors outside of the two professional societies appears to have facilitated the final policy decision. For example, the National Human Rights Commission wrote to MCI on two occasions requesting the recognition of EM as a medical specialty, eliciting a written response in the MCI meeting minutes which had rarely occurred with advocacy from SEMI and INDUS-EM [MCI Meeting Minutes]. More important was the decision by the Academy of Traumatology to utilize its networks to access MCI leadership to request recognition, so that the EM courses that were being planned Gujarat could get underway.

"I would say window of opportunity, in one sense…that the time was right in so many frames, and MCI was primed, there were a lot of stakeholders, there was a demand for Medical Council to sort of start emergency medicine there was something already happening through private sector through this college and then there was an application from government medical colleges…so if it was a private medical college they would also sense it was different thing." Private hospital stakeholder

National governance structures: Respondents converged around the idea of MCI recognition, but soon recognized the enormous challenges that they would face in securing the recognition. By the early 2000s, MCI had evolved in increasingly political ways, and its leaders became embroiled in a series of corruption scandals (Rajalakshmi, 2001). Advocacy for recognition by EM stakeholders therefore overlapped with an intensely turbulent time in the history of MCI. For example, the PG committee did not meet for a period of ten-months between 2001 and 2002 due to a public interest litigation with the Delhi High Court (MCI Meeting Minutes). Furthermore, the 1990s and 2000s saw an intense concentration of power within a few individuals within MCI, a closing-off of communication channels with MCI administrators, and an overall lack of prioritization of the institution to the issues of specialty development and recognition [A5, A12, A18, A25, A29, A35, A48, A123]. Some respondents described becoming increasingly frustrated with the course of events, while a few others noted that the long-term nature of policy development at MCI was to be expected.

"The advocacy was continuing, letters were going continuously but MCI is a difficult body to work with, very difficult body to work with." Private sector stakeholder

The nature of bureaucracy within MCI also complicated matters, given the unclear demarcation of responsibilities within the MCI membership between executive leaders and the postgraduate committee, with respondents mixed as to which group held final decision-making authority. Respondents also had to engage with MCI's notoriously slow administrative system, usually through written communications and formal meetings with

administrative staff. Some respondents described the process of letter writing to MCI as a disheartening endeavor, and one characterized the process as 'throwing something into a bottomless pit' [A23, A29, A74]. Meetings with MCI administrators were described as passive events, often consisting of administrators responding in noncommittal ways [A25, A29]. Respondents also reported reaching out to other government actors, such as MoHFW and highly placed bureaucrats in other sectors to make the case with MCI, although the impact of this outreach is unclear [A19, A25, A88]. Ultimately, few signals of MCI's intention to act were revealed until 2007-2008, when MCI leaders told Academy of Traumatology leaders that they were interested in starting the program, and when an MCI official informed a SEMI stakeholder about MCI's intention to start the program [IEMSIG, 2008].

In 2009, the year MCI recognized EM, the institution was also on the precipice of enormous change. The repeatedly changing sets of Board of Governors – installed between 2010 and 2013 to replace the previous crisis-ridden Council – resulted in EM stakeholders having to repeatedly start over with new leadership. Interestingly, each of the Boards presented unique opportunities for the EM network; some stakeholders found themselves having allies in positions of power and were able to utilize these relationships to arrange meetings.

Discussion

Before discussing the key findings of the chapter, it is important to reflect on the key limitations in researching these particular questions. First, some respondents, particularly those involved with regulatory institutions, did not always recollect or reveal details of the agenda setting processes discussed in this chapter, and therefore, a key weakness of this chapter could be an incomplete understanding of the trajectory of the field. I addressed this issue by gathering data from as many sources as possible, and triangulating interview data with documents and observation. Second, due to the diversity of stakeholders involved in these processes, I had to narrow the sampling of respondents to represent both rich experiences in developing EM, and a diversity of viewpoints. As a result, I might not have ensured wide representativeness in sampling. Similar to the first limitation, I addressed this issue by gathering other sources of information, such as documents and observation. Third, I was unable to secure certain interviews and obtain particular documents, and therefore, the findings might not incorporate potentially important perspectives or facts.

Medical specialization remains a neglected area in health policy and systems research, and we know little about how specialties emerge, how they evolve in the context of health systems, and what their impact is on equity. My findings provide some of the first empirical research on the phenomena of specialization by examining the reasons how, and why new medical specialties take root in India. I also aim to build on the growing

body of knowledge on political prioritization within the health sector in LMICs by discussing these findings in the context of the Shiffman and Smith framework.

The growing number of studies on political prioritization in the health sector in LMICs indicate the importance of cohesion in stakeholder networks to facilitate the promotion of certain policies over others (Shiffman and Smith, 2007a, Hoe et al., 2016). Conversely, recent studies have found that lack of cohesion within the actor network is a major barrier to prioritization (Shawar and Shiffman, 2016, Smith, 2014). A key takeaway from this case is that policy community cohesion was seemingly not critical to achieving political prioritization, but the absence of cohesion appears to have impeded policy success. The multiple channels of advocacy from different networks with contrasting views and ideologies could have facilitated the delivery of messages within the tangled governance structure of MCI. The governance structure of the institution has previously been vociferously criticized for its bureaucratic inefficiency and opacity, most notably in the 2016 report of the Standing Committee on Health and Family Welfare of the Parliament of India (Parliament of India, 2016, Thomas, 2013). Respondents also noted that MCI was a challenging organization to decipher, and therefore, one plausible interpretation is that the sheer diversity of voices arguing for Emergency Medicine helped secure the recognition, a theme confirmed by three key informants during respondent validation. However, the lack of cohesion was evidently detrimental to the overall development of the field, resulting in divergence on some policy objectives and duplication of efforts around others. A major factor behind this fragmentation was perhaps the lack of leaders who could unify the various groups involved, a trend observed in other specialist

communities (Shawar et al., 2015). My analysis therefore suggests that a diversity of voices could be advantageous in reaching out to institutions such as MCI, but that unifying leaders are critical to harness the efforts of stakeholders in constructive and productive ways.

My findings also shed light on groups often neglected in health systems research, notably professional associations (Azimova et al., 2016). Due to regulatory failures and the porous boundaries around postgraduate medical education, professional associations appear to play essential roles in the development of new medical specialties in India, such as in developing curricula and organizing training programs. Despite their voluntary, non-governmental nature, these professional associations seem to take on the role of guiding organizations in development of new medical specialties, due to the lack of stewardship on these issues in the regulatory system. Shiffman and Smith (2007a) note that competition amongst concerned groups can hamper growth of institutions meant to guide the field; replacing institutions with organizations, in this case, I found that competition fractured the organizations themselves, resulting in a fragmented network. Such splitting is certainly not a new phenomenon in the medical profession; the development of factions and fractures within professional societies was well known amongst respondents in this study, making the sparse literature on the subject all the more surprising (Udani, 1988). More needs to be understood regarding how professional associations might better collaborate, particularly along public and private sector lines, and whether they should be made more accountable to public health interests. Furthermore, this study captured the elite nature of these professional associations, and

more needs to be understood about whether these groups tend to exclude certain voices due to their largely urban orientation.

The role of the diaspora in strengthening health systems is also an understudied area of health systems (Ahmed et al., 2015). Kapur (2010) notes that a key aspect of diasporic engagement is the idea of 'social remittances', or the exchange of ideas between their countries of residence and countries of origin. Medical specialization could be considered one such social remittance, given the role that diasporic engagement and transnationalism appears to have played in influencing the growth of medical specialties in India (Khosla et al., 2012, Pothiawala and Anantharaman, 2013, Academy of Family Physicians of India, Mishra et al., 2013). In this case however, the involvement of the diaspora in professional associations, and in the development of EM more broadly in India, appears to have been both praised and criticized. My findings suggest that while this group has unique advantages in actively engaging in India (for example, cultural familiarity, language, and networks), their deep ties to India might on occasion cloud their willingness to introspect, and to fully appreciate the reasons behind resistance and backlash to their efforts (Agarwala, 2015). The sources and application of power by the diaspora will be further discussed in the later chapter on power.

The convergence around seeking formal recognition for EM by MCI highlights the centrality of postgraduate education in developing a specialty. Despite its overwhelming support within the network, we find that relying primarily on a postgraduate education network might not facilitate linkages with the broader health system, and therefore, may

not benefit the vast majority of patients. As the next chapter will discuss in further detail, the most obvious reason for seeking recognition, the generation of specialists, has been the most challenging to pursue, raising questions about whether stakeholders were sufficiently prepared to diffuse and implement training programs post-recognition. The difficult experiences of stakeholders within Family Medicine, Palliative Medicine and Infectious Diseases in initiating postgraduate training programs at medical colleges adds further evidence to these challenges. Further, stakeholders seeking to make a public health impact through EM might consider exploring other interventions and policies that could enhance the impact of the field at the community-level. For example, the experience of Palliative Medicine for example suggests that an emphasis on the undergraduate curricula and community-level programs could strengthen the orientation of the specialty towards equity (Rajagopal, 2016c). Stakeholders from both the public and private sectors could also advance their efforts to integrate the specialty within the health system by engaging more closely with state governments on various activities, such as initiating medical college courses, promoting undergraduate curricula reform, and supporting the expansion of programs such as the recently launched National Emergency Life Skills program by MoHFW (Alexander et al., 2013).

The Shiffman and Smith framework posits two essential factors within the global policy context for prioritization – a policy window, and global governance structures. The previous chapter explored the incredibly complex governance structure for postgraduate medical education in India. This chapter lends further support to these arguments, particularly due to the immense difficulties that stakeholders faced in engaging MCI. My

findings also support those of Shiffman and Sultana (2013) and Smith and Neupane (2011), who illustrated the challenges in advocacy efforts in the context of a difficult policy environment. Further, beyond the political context, the trajectory of EM in India was also deeply shaped by other contextual factors, primarily the dramatic shift in private sector involvement in the health sector during the 1990s. Recent scholarship on political prioritization by Koduah et al. (2015) on maternal fee exemption policy in Ghana indicates that other contextual factors outside of the political environment, such as historical experience and path dependency, also shape prioritization, suggesting that future research should actively consider these broader contextual factors in explaining the rise and fall of items on a policy agenda (Schmidt et al., 2010).

Conclusions

In this chapter, I outlined the trajectory of EM from the 1980s until recognition of the field by MCI in 2009, and applied the Shiffman and Smith framework to tease out the factors that influenced the formal development of the specialty. I found that the guiding organizations in this case, the professional associations, played a pivotal role in promoting the field, a role heightened due to the lack of focus on specialization in the complicated regulatory architecture of postgraduate medical education in India. My findings suggest that multiple streams of advocacy by the stakeholder community might have enabled prioritization of the specialty within MCI. However, the fragmentation in the stakeholder network ultimately broke apart the policy agenda for the specialty, with numerous policy objectives either in contention, or being duplicated by the professional

associations. These findings also shed light on the involvement of professional associations and the Indian diaspora in political prioritization, and suggest that systems of accountability could be beneficial in reorienting the efforts of these actors to better align with achieving equity. Finally, I posit that due to the complexity in the system of postgraduate training in India, stakeholders seeking to make a public health impact through the development of a specialty might consider exploring policies beyond specialty recognition and specialist training. The next chapter will illustrate the issues and challenges faced by EM stakeholders in formulating and implementing postgraduate training programs in the MCI system.

Chapter 4: Formulating, Implementing and Regulating Emergency Medicine Policy in India

Introduction

The previous chapter on political prioritization examined the emergence of Emergency Medicine (EM) as a medical specialty in India, largely from the perspective of stakeholders advocating for a formal recognition of the field by the Medical Council of India (MCI). In this chapter on policy formulation and implementation, the focus shifts from the networks of EM stakeholders, to MCI and its affiliated medical colleges. Over a ten-year period, EM stakeholders from the public and private sectors advocated for the formal recognition of EM as a medical specialty, a protracted process that successfully culminated in recognition for the field in July 2009. As of December 2015, only 51 residency spots were available in 26 MCI-affiliated medical colleges in all of India (excluding two Institutes of National Importance outside MCI's direct oversight – the AIIMS and JIPMER). Out of these, 15 medical colleges (with 32 residencies) were eligible for recognition by MCI; however, only four colleges have passed the final inspection, leaving 11 medical colleges temporarily de-recognized. These de-recognitions suggest a major downward shift in momentum for the field within medical colleges, particularly in regards to meeting the objective of generating more specialists for the country. It is therefore crucial that we trace the trajectory that followed political prioritization in order to fully understand what formal recognition for the field has achieved, and not achieved.

Taking a view of policy development through a stages heuristic model of policy development, the formulation and implementation stages of the policy cycle are arguably the most interconnected, with decisions taken during the formulation phase forming the foundation on which implementation then takes place (Sidney, 2006). Yanow and other interpretive policy scholars have argued forcefully that analysts must examine formulation processes in analyzing policy implementation in order to grasp 'meaning-focused understandings of social and political realities' (Yanow, 2014). However, only a few studies have taken such an integrative approach to health policymaking in low- and middle-income countries (LMICs) and conducted an in-depth exploration of the linkages between formulation or design, and implementation, as opposed to studies examining fidelity or achievement of objectives (Sheikh and Porter, 2010, Koduah, 2016, Sheikh et al., 2013).

Policy formulation often occurs in the context of government institutions and in many cases "out of the public eye" (Sidney, 2006). In this case study, the regulatory institute at the heart of decision-making around medical specialties is the Medical Council of India (MCI), the largely opaque regulatory institution responsible for medical education in India, and an institution that has been mired in deep controversy for over two decades (Parliament of India, 2016). MCI, like other professional councils in LMICs, is vested with considerable powers from the state to oversee the quality of medical education by setting standards, and often, enforcing them (Teerawattananon et al., 2003, Ensor, 2009). Yet, in countries such as India, policymaking in these councils is akin to a black box,

with limited empirical evidence about their processes. The scarcity of research on MCI, particularly in the context of its myriad functions, presents a major gap in our understanding of how the medical profession is regulated in India.

The timeframe for formulation and implementation of EM policy – 2009 to 2015 – directly overlaps with an incredibly turbulent period in MCI's history. From 2001 to 2010, leadership at MCI were embroiled in a series of corruption scandals, culminating in the arrest of the MCI President by the Central Bureau of Investigations in April 2010 (Baru, 2015). Following this arrest, the Parliament of India passed an amendment to the Indian Medical Council Act (1956) installing a seven-member Board of Governors to oversee the institution for a period of one-year. A second Board of Governors was installed in 2011, followed by the third set in 2013 (Thomas, 2013). In late 2013, MCI was reconstituted with its prior representative structure, with many former members returning to power (Baru, 2015). In 2016, MCI was subject to a high degree of scrutiny from the government, with the Parliamentary Sub-Committee on Health and Family Welfare releasing a comprehensive report condemning MCI's practices (Nagral et al., 2016). In May 2016, the Supreme Court, MCI, Central Government and State Governments entered a major entanglement over national entrance exams, and the Supreme Court of India ultimately installing a three-member panel to oversee the functioning of MCI for a period of one year (Rajagopal, 2016a). MCI's role in the health sector in India has been vigorously debated and discussed, by medical professionals, health researchers and the media; yet, few empirical studies of its functioning exist.

This study is among the first to explore and connect the stages of health policy formulation and implementation in postgraduate medical education in India. It provides a unique opportunity to understand these processes from the perspective of a regulatory institution that has both a standard setting (formulation) and enforcement (regulation) function, by understanding these functions in tandem. This case also provides an opportunity to examine the implementation of postgraduate courses in medical colleges in India, and to explore the issues, politics and challenges that medical colleges contend with when establishing these courses. Finally, in keeping with the need for more interpretative policy analysis, this case study will examine the linkages between policy formulation and implementation, within the context of the regulatory dynamic between MCI and medical colleges, and during a period of turbulence within MCI. Specifically, I seek to answer the following research questions:

1) How, and why, did MCI decide to formally recognize EM as an academic specialty?
2) How did MCI formulate policies to operationalize postgraduate training in these specialties?
3) How has EM diffused across medical schools, and how have medical colleges implemented these training programs?
4) Can we explain the implementation outcomes by understanding their connection to formulation?

Methodology

Broadly, this case focuses on the phenomenon of EM gaining formal recognition as a medical specialty by the MCI, the formulation of policy by MCI to operationalize postgraduate training in the field, and the subsequent implementation of postgraduate training courses. This chapter on formulation and implementation begins with events taking place from the early 2000s, but focuses on events occurring following formal recognition of the field in 2009, until December 2015.

Theoretical foundation: I examined frameworks from public policy and public health to better understand the theoretical underpinnings to the two stages of the policy cycle in question – formulation and implementation. This theoretical foundation was supplemented by a review of the literature concerning health policy formulation and implementation in LMICs.

Theories of Formulation

The stages heuristic model places policy formulation between agenda setting – the ways in which policymakers come to view an issue as a priority – and implementation – when policy decisions or interventions pertaining to that issue are implemented. However, the boundaries between agenda setting and formulation, and formulation and implementation, are relatively porous (Berlan et al., 2014). Kingdon argues that the selection of an appropriate intervention, or set of interventions, forms part of the agenda

setting stage as part of the policy stream (Kingdon, 1995). Others, such as Thomas (1990) and Jann (2006) categorize the exploration of policy alternatives, and the selection from within those alternatives, as a distinct category following agenda setting. Scholars sometimes conceptualize formulation as the generation of alternative approaches to address an issue, setting aside the final selection of a particular approach (Sidney, 2006). For these purposes, I agree with the definition provided by Jann (2006), and supported by Berlan et al. (2014), in which formulation comprises the period where "expressed problems, proposals, and demands are transformed into government programs".

Public policy theorists offer a range of ideas regarding the steps occurring in policy formulation, and also highlight the involvement of numerous combinations of actors and institutions (Sidney, 2006). The application of these ideas to health policy in LMICs is poorly understood however, resulting in a scarcity of frameworks to draw upon. Berlan et al. (2014) describe a series of seven steps comprising formulation, briefly mentioned here as the generation of policy alternatives, deliberation and consultation, advocacy, lobbying, negotiation, drafting and guiding/influencing implementation. My a priori knowledge of the case suggested that many of these steps would not be present in the data; yet, I believed that it was important to contribute to our understanding of the strengths and limitations of this framework, and therefore, included it in this analysis.

Theories of Implementation

Greenhalgh et al. (2004) distinguish between diffusion, dissemination and implementation, with diffusion pertaining to the passive spread of an innovation, dissemination referring to active and planned efforts to convince target groups to take up an innovation, and implementation as active and planned efforts to mainstream an innovation within an organization. The previous chapter on the architecture of regulatory institutions in India suggested that only two of those concepts – diffusion and implementation – would be relevant to this case.

Rogers (1983) defines diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system". Policy diffusion in transnational contexts appears to be driven by external (foreign pressure) and internal factors, including the desire for legitimacy, self-interested rational learning, and psychosocial factors (Weyland, 2005). Other scholars have categorized the theories underpinning global policy diffusion as social construction, coercion, competition, and learning (Dobbin et al., 2007). Narrower definitions of policy diffusion leave out coercion, and focus on the voluntary nature of policy adoption from one setting to another (Bender, 2014).

Policy implementation theories are often broadly categorized as top-down, bottom-up, or hybrid theories merging top-down and bottom-up approaches (Pülzl, 2006, Buse et al., 2005). The 'top-down' approach reflects a more linear approach to policymaking, where

policies, goals and key actions are set by high-level decision-makers, and actors at subordinate levels implement these strategies faithfully (Buse et al., 2005).Conversely, bottom-up theorists, such as Lipsky (1980) recognize that those actors who implement the policy play a critical role in not only executing and reinterpreting policy decisions (Walt, 1994). Numerous hybrid theories consolidating the top-down and bottom-up approaches have been put forward, such as those by Elmore (1980) and Sabatier (1986).

Data collection: I utilized three forms of data collection for this study – in-depth interviews, document review, and non-participant observation. The Institutional Review Board at the Johns Hopkins School of Public Health (JHSPH) provided ethical clearance for this study. An Ethics Committee of the Centre of Social Medicine and Community Health at Jawaharlal Nehru University, New Delhi reviewed study protocols and concurred with that decision.

In-depth interviews: The sections of the interview guides focused on the research questions of this chapter were based on the questions themselves and *a priori* knowledge of the case. I selected potential respondents through two forms of purposive sampling – maximum variation and snowball sampling (Patton, 1990). I conducted data collection from March 2015 to December 2015, with the majority of interviews taking place in-person in India (primarily metropolitan cities). Potential respondents were contacted by phone, email and/or in-person. Three respondents declined to be interviewed, six potential respondents did not respond to requests, and three respondents expressed interest but were unable to commit to a date and time for the interview.

I conducted a total of 87 interviews with 76 respondents. 72 interviews were conducted in-person, seven over the phone, and eight by Skype. The majority of interviews took place in-person in India in 11 locations (primarily large metropolitan areas). I obtained verbal consent from all participants, and audio-recorded interviews when permitted. During each interview, I took extensive notes by hand and then prepared detailed memos following the session. Audio-recorded interviews were transcribed verbatim by one contracted transcriber, and I then checked, cleaned and de-identified. Each respondent was assigned a code during analysis. I have reported the broad categorizations to which the repondents belong (Table 16) and to protect our respondents' identities, are withholding their organizational affiliation, geographic location, and demographic characteristics.

Table 16: Number and categorization of in-depth interview participants

Organizational categorization	**Number of respondents**
Current and former central government	3
Current and former regulatory institutions	12
Development partners	2
Emergency medicine professionals	47
Medical college leadership	6
Other new medical specialties	5
Media	1
Total	**76**

Document Review: I sourced documents for this study from a desk review, and through snowball sampling with the interview respondents. I drew primarily upon publically

available meeting minutes from various MCI committees from 1998 to 2015, including the Postgraduate (PG) Committee (n=138), the Executive Committee/Board of Governors (n= 119), and the General Body (n=27). For these meeting minutes, I used the search term 'emergency medicine' in order to utilize documents pertinent to this case (n=66). Minutes of sub-committee meetings mentioned in Committee meeting minutes and by respondents were not publically available, nor was I able to obtain them directly from MCI. I searched for all publically available assessment reports from inspectors of EM programs from 2010 onwards (n=8). I reviewed key MCI regulations and policies pertinent to this case (n=4). I also triangulated our data with media reports and commentaries regarding MCI (n= 18). I analyzed documents in terms of their relevance to the research questions, and entered relevant summarized information into the case study database.

Non-participant observation: I utilized non-participant observation to triangulate this data, strengthen inferences, and contribute additional insights beyond interviews and document review (Maxwell, 2005). I observed a total of six meetings – three national-level EM conferences, two high-level expert meetings on topics related to EM and one state-level conference on health systems. I obtained permission from organizers of each of these conferences to attend and observe the proceedings, and took extensive handwritten notes, which were later summarized in the form of memos.

Analysis: My analysis was based upon the 'framework' method, a common analytic approach in policy research (Gale, 2013). Due to the scarcity of conceptual frameworks

focused on policy formulation, and its linkages with implementation, I adopted a largely inductive approach to coding. First, I developed a set of codes by reviewing memos generated from the 87 in-depth interviews, six observations and select documents to prepare an initial list of codes. (Charmaz, 2006). I then conducted line-by-line coding on six transcripts, from which we further inductively generated codes (Charmaz, 2006, Saldaña, 2012). I then applied the new codebook to an additional seven transcripts, and based on this process, condensed the codes into a final list in consultation with my primary advisor. I then applied this final codebook to an additional 33 transcripts that were selected for in-depth coding due to the richness of the data presented in those interviews. I reviewed the coded data, and discussed emerging themes with my primary advisor. Once settled on, these themes were entered into a role-ordered matrix (Miles, 2014). The remaining 41 interviews, relevant documents identified from the case study database, and observation data were reviewed to confirm or disconfirm themes, and present new information wherever possible. In September 2015, I then engaged in respondent validation with three key informants by discussing key findings and incorporating their feedback into the analysis (Gilson et al., 2011b). I have also shared drafts of the findings with two respondents; as of March 2017, I have received feedback from one respondent.

Results

While the previous chapter explored efforts to obtain formal recognition from the EM network, the results in this chapter explicitly focus on the engagement between MCI, the

medical colleges, and concerned EM stakeholders. This analysis revealed four stages in the overarching lifecycle of a postgraduate training program: Formulation (the formulation of policies to initiate and operationalize EM courses in medical colleges); Diffusion (the informal, unplanned and passive spread of EM courses) Implementation (the formal, planned and active efforts to introduce and sustain EM courses within medical colleges); and Regulation (the initial and final evaluations of EM courses by regulatory authorities). Each section will refer to the key events that took place in the development of EM in India, presented in Table 17. The Results section will conclude with a brief description of the dynamics between each of these four stages, and the consequences arising from these dynamics.

Table 17: Chronology of key events and decisions pertaining to EM at the Medical Council of India

Year	Events and Key Decisions in EM Policy Development
October 2000	Accident and Emergency Medicine removed from PG Regulations
December 2004	First Discussion of EM in PG Committee: Dr. NTR University of Health Sciences (Andhra Pradesh) request for clarification on status of EM in the PG Regulations
March 2007	Second Discussion of EM in PG Committee: National Human Rights Commission sends recommendations on EM
February 2008	Sub-Committee of MCI meets to discuss National Human Rights Commission recommendations, including recommendation to start EM Fax received by EM stakeholder indicating that MCI would recognize EM
April 2009	Executive Committee notes that decision to initiate EM was taken in 2008
July 2009	MCI formally recognizes EM in the PG Regulations
May 2010	MCI is dissolved by President's Order; Parliament amends Indian Medical Council Act and installs a Board of Governors
2010	BJ Medical College and NHL granted permission to begin MD courses
2011	Development of EM curriculum by select group of EM stakeholders (INDUS-EM)
2012	Second Board of Governors instituted
February 2012	Request by Board of Governors to redraft Emergency Medicine curriculum
May 2013	Third Board of Governors
December 2013	MCI reinstated with membership from 2010 and before in leadership roles
2013	National Board of Examinations formally recognizes EM
July 2014 – December 2015	Sharp increase in denials for permissions and recognitions by the PG Committee
2016	Release of Parliamentary Standing Committee report criticizing MCI
2016	De-recognition of 11 MCI-permitted MD courses

Formulation

Reasons for the recognition of EM by MCI

Prior to 1988, EM had been recognized by MCI as a specialty in which postgraduate training could be undertaken in medical colleges (Medical Council of India, 1988). However, respondents noted that no institutions had actively pursued this option up until 2000, and it was therefore removed from the list of approved specialties in that year (The Hindu, 2000). A few respondents noted that the lack of demand for the course from medical colleges was the primary reason for its removal. From the early 2000s onwards, national and international stakeholders engaged in an extended advocacy process with MCI stakeholders, culminating in the eventual approval of the specialty between 2008 and 2009. MCI respondents, and those EM stakeholders with direct knowledge of the decision-making process at MCI, described some of the rationale behind deciding to approve the specialty, leading to its formal approval in July 2009: -

1) ***Existing private sector momentum:*** A few respondents highlighted the fact that momentum for EM had been building in India over the 2000s, and MCI did not want to obstruct that path. One MCI respondent believed that the initiation of the course at a medical college in Chennai in the early 2000s (prior to the recognition of the field) for example could have facilitated the decision. Former MCI stakeholders believed that the growth of the field in the private sector had increased potential job opportunities for graduates. Furthermore, exams such as the entrance exam for the Royal College of Emergency Medicine, U.K. were enabling Indian graduates to secure employment in the UK in Accident and Emergency Wards. Such momentum indicated an increase in job

opportunities, and therefore, interest amongst students in medical colleges, which resulted in increased demand from medical colleges.

2) International influences: Many respondents discussed the importance of international standards of care and practices on decision-making within MCI. Current and former MCI respondents described how MCI often reviews developments in high-income countries such as the US, UK, and Australia, and analyzes their applicability to the Indian context. Some MCI and EM respondents described an underlying desire for MCI to match international norms around medical education. Some respondents noted the influence of the increasing presence of short-course training programs pertaining to emergency care, offered in many instances through collaboration with international stakeholders, including Indian-origin stakeholders. Further, Indian stakeholders who were exposed to EM in high-income countries actively promoted the field with MCI members and secretariat staff, in some cases drawing upon their experiences with EM in those settings.

3) Demand from medical colleges: The advocacy of medical colleges for the course appears to have alleviated some of the concern from MCI regarding the demand from medical colleges. One MCI respondent said that MCI typically looks at the mandate from medical colleges to start a course; for example, MCI looks at which medical colleges want to start the course, and explores the ability of these colleges to appropriately deliver the course. According to some EM stakeholders, the interest of medical colleges in Gujarat to start the MD course in EM appears to have satisfied this parameter in the eyes of MCI.

4) ***Shifting disease burden:*** Some MCI and EM respondents believed that the shifting disease burden towards non-communicable diseases and injuries factored in MCI's decision making. EM stakeholders had repeatedly raised the growing burden of non-communicable diseases and trauma-related injuries, such as those caused by road traffic collisions, in their advocacy with MCI. Two MCI stakeholders noted that such shifts underscored the need for acute care to specifically address related health conditions, and believed that such care could be driven by the field of EM.

Initial Resistance

Respondents discussed the reasons for the resistance from MCI leaders. Between 2000 and 2008, the repeated advocacy attempts reached members of the PG committee, but according to one MCI respondent, the committee was divided in terms of their views on the necessity for the specialty. One side felt that the existing system of utilizing consultants and junior staff in the casualty wards was sufficient, while the other side felt that the 'Western' approach was more suitable. Despite this divide within the committee, the issue did not hold much traction until 2007-2008, largely due to the limited interest amongst committee members to pursue EM as a policy objective. Another MCI respondent involved in these processes noted that the lack of internal commitment to the specialty from within the PG committee could explain the delay. An EM respondent had been told by a senior member of the committee that the specialty would not grow, and this person also pointed to the lack of interest in starting the EM course prior to 2000. EM stakeholders were also told that EM graduates faced an uncertain future. MCI's concerns

reportedly rested largely upon their perception of the lack of clear job opportunities for EM graduates, the unclear boundaries between EM and other specialties, and the lack of opportunities for further specialization.

A few respondents discussed some of the underlying reasons why the specialty was not recognized earlier in the advocacy period. A former MCI stakeholder noted that some of the more senior PG committee members were somewhat resistant to suggestions brought to them by junior colleagues, and that resistance was borne out of a strong belief in their own perspectives. The same stakeholder also discussed how some decision-making occurred according to the 'whims and fancies' of committee members. Another former MCI stakeholder noted that the credibility, and perhaps, volume, of institutions advocating for the specialty mattered. In the view of the respondent, MCI would not consider specialties from a single letter from a relatively unknown institute; a group of reputable institutions would be more successful in gaining the attention of the institution.

Finally, a few EM and MCI respondents noted that the bureaucratic nature of the institution might have extended the process, due to the numerous steps that need to be undertaken. One MCI respondent noted that several points needed to be discussed amongst leaders, including the pros and cons of including the specialty, the curriculum, and faculty criteria. Furthermore, one EM respondent noted that the role of the institution within the regulatory architecture of postgraduate medical education meant that the emphasis tended to be on existing courses, rather than new ones.

"…still it will take a while for it to happen because there's lot of bureaucracy which is involved with the MCI. And MCI's basic job profile is not to get new specialty. It is just to do with the existing specialties, medical education across the country. So this was not a priority area for them." Private sector stakeholder

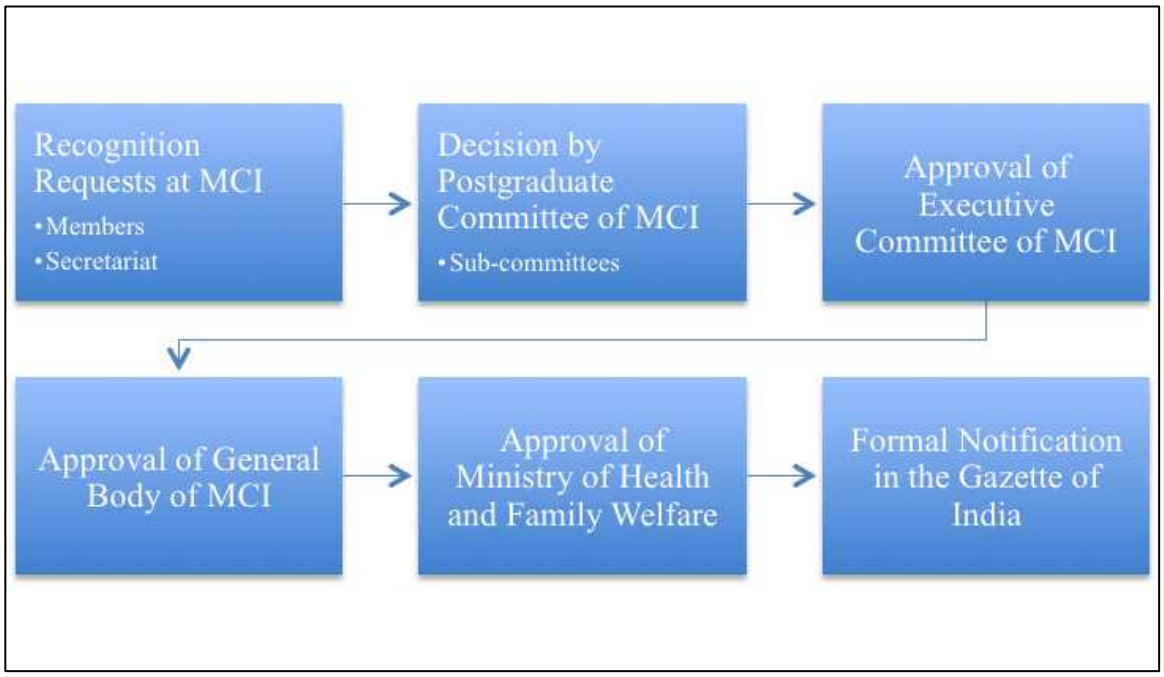


Figure 4: Pathway to formally recognize specialties in the Medical Council of India system

Process to recognize specialties

As noted in Chapter 2, current and former MCI respondents described that in practice, the process of recognizing specialties was somewhat open-ended and dynamic (despite in theory being considered fairly linear as depicted in Figure 4). Between 2000 and 2008, respondents said that the Postgraduate Committee of MCI was responsible for discussing the rationale for including new medical specialties. As discussed in the previous chapter, numerous advocacy attempts were made regarding the need for recognizing EM as an academic specialty. Formal mentions of EM in the MCI meeting minutes rarely referred

to the discussions between MCI and the professional associations. Rather, these mentions pertained to institutions unconnected to the EM stakeholder network, such as the National Human Rights Commission, which began discussing the need for EM from 2004 onwards, initially in response to a perceived increase in fatalities due to the road traffic incidents and the fire tragedy at the Uphaar Cinema in New Delhi in 1997, and later in the context of their National Review Meeting on Health in 2007 (National Human Rights Commission 2004, 2007).

Within the PG Committee, sub-committees had been called on a few separate occasions to review requests to recognize EM as a specialty The first was regarding a request from a Health Sciences University in Andhra Pradesh in December 2004 requesting clarification on the absence of EM from the list of permitted specialties. The Committee decided to constitute a two-member sub-committee to explore the issue, but meeting minutes from subsequent years do not refer to the deliberations or decisions of this sub-committee. The second instance occurred in February 2007 and pertained to a request from the National Human Rights Commission to formally recognize EM as a specialty. Once again a two-member sub-committee was formed, and according to respondents, deliberated and reported to be in favor of the recognition of EM. Another sub-committee comprised of MCI members had met in April 2008 regarding the suggestions of the National Human Rights Commission; this sub-committee reiterated support for the inclusion of EM as a recognized specialty, and shared their conclusions with the Executive Committee. The Executive Committee took up the matter in April 2009, and noted in the meeting minutes:

"The proposed 'Emergency Medicine' as a specialty has been approved and should start shortly in 2008." [Meeting Minutes of the Executive Committee of MCI, April 27 2009].

The statement is the first official documentation of decision-making taken in regards to EM. The fact that a decision was taken in 2008 was also confirmed in a newsletter by an EM stakeholder, indicating that he had received a fax from an 'insider' stating that the field had been recognized [IEMSIG, 2008]. Two respondents also recalled hearing from Ketan Desai, the MCI President, that EM had been approved in early 2009 at an American Association of Physicians of Indian Origin meeting in New Delhi.

Underlying this formal mention, many EM respondents noted making repeated advocacy efforts with MCI members and secretariat officials from the early 2000s onwards. The previous chapter describes the efforts of a large, and fragmented, stakeholder network, including two national-level professional societies, SEMI and INDUS, and a Gujarat-based association, the Academy of Traumatology. The meeting minutes of the PG Committee and Executive Committee do not have any other references to any of these meetings or deliberations. Following the April 2009 Executive Committee meeting, the next notification was in the Gazette of India in July 21 2009, when Emergency Medicine was formally added to the Schedule as the 29th specialty. Respondents noted that MoHFW needed to sign off on the decision to include a specialty in the Schedule, and for that decision to appear in the Gazette of India.

Formulation of operational policies

Following formal recognition of the specialty, MCI needed to work out operational policies in order to allow for medical colleges to submit applications to begin EM courses. These can be broadly categorized into: 1) faculty criteria; 2) curriculum; 3) Minimum Standard Requirements.

1) Faculty criteria: According to the Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998, MCI must establish regulations for the minimum qualifications and experiences for a faculty member to teach in a particular department. MCI has appointed a Teachers Eligibility Qualifications (TEQ) sub-committee to recommend regulations in these situations. In the case of EM, the faculty criteria were proposed in November 2009 by the TEQ sub-committee, and later approved by the Postgraduate Committee following internal discussions across the two committees [MCI Meeting Minutes]. As formally qualified EM postgraduates, with degrees sanctioned by MCI, are currently absent in the workforce, MCI decided to allow for a ten-year transition period, where postgraduates from General Medicine, General Surgery, Respiratory Medicine, Anesthesia and Orthopedics, would be eligible to teach Emergency Medicine, under the condition that they hold two years training in Emergency Medicine. Further guidance has not been provided on what specifically qualified as two years training in Emergency Medicine. Additionally, the regulations around the number and qualifications of professors followed the same formulations as other postgraduate courses. For example, specialists trained abroad, or with unsanctioned qualifications, such as un-recognized MD courses, would not be accepted as faculty.

Decision-making on faculty criteria appeared to have remained largely within MCI, although a few respondents noted that EM stakeholders independently shared their viewpoints on faculty criteria with MCI members through discussions, curricula, white papers, and other formats. It is unclear whether this input was actively considered in the meeting undertaken by the TEQ Sub-Committee in 2009. Faculty criteria appear to have not been elaborated upon, nor been raised for discussion, except during August 2011, when the second Board of Governors discussed faculty criteria for recently recognized specialties, including Emergency Medicine.

2) Curriculum formulation: The chapter on the regulatory architecture of postgraduate medical education highlighted the confusion amongst stakeholders regarding the exact role of MCI in establishing curricula. In the case of EM, many respondents discussed the sharing of curricula with MCI, beginning from the late 1990s. As the stakeholder network grew, the main stakeholder groups began submitting different versions of EM curricula to the MCI. Despite these parallel efforts, many respondents believed that the curricula were largely similar, as they drew upon standardized curricula from the US, UK and Australia. Formal efforts around developing standards for curriculum appear to have begun after 2010, once the first courses were being launched. However, MCI began to undergo a period of intense reform from 2010 onwards, and further traction on a standardized curriculum from MCI stalled until 2011, when the second Board of Governors appointed a four-person expert committee to formulate the EM curriculum, made up of INDUS

stakeholders. The committee submitted their curriculum to MCI in 2011, and later, independently published that version as a white paper (Aggarwal et al., 2014).

The issue of curricula came up again in February 2012, and the Board noted that curricula for recent specialties, such as Emergency Medicine, Palliative Medicine, Infectious Diseases and Critical Care Medicine, were in different formats, and suggested that the curricula be rewritten according to a common format. The Board went further saying that overlap between Critical Care Medicine and Emergency Medicine must be avoided, and also requested that staff contact the NBE with the objective of evolving a standardized, national curriculum. Following this meeting however, there has been no mention of the EM curriculum in meetings of the second and third Board of Governors, and the reconstituted MCI from 2013 onwards.

A curriculum for EM had not yet been notified by the time data collection was completed. Medical colleges had independently developed their own curriculum, most often drawing upon international and national networks for guidance, and adhering to the standards of their affiliating Universities. Some respondents felt that the delay is due to bureaucratic procedures, such as internal delays, or approval delays with MoHFW. Respondent viewpoints on this delay linked closely with their thoughts on whether curricula was MCI's responsibility in the first place; some felt that it was up to the Universities and medical colleges to decide curricula, while others were troubled by the lack of leadership from MCI in this regard. Some respondents also used this example to

draw a contrast between the working styles of MCI and NBE, and praised what they perceived as the structured approach to curriculum development taken by the NBE.

3) Minimum standard requirements: According to a few respondents, the Academic Cell of MCI formulated the Minimum Standard Requirements (MSR) for initiating courses in EM in 2010. Many of the requirements to initiate a course in EM mirror that of any postgraduate course; for example, each unit of 30 beds requires an equivalent of 1 Full Professor and 2 Assistant Professors, and each unit can then take a maximum of two students. The MSR were then applied to formulating a Standard Assessment Form (SAF), the inspection form used by inspectors during the permission and recognition stages. Formulating the MSR for this course appears to have been largely internal, and no respondents spoke of providing inputs at any stage. The SAF is publically available, and appears to be updated annually.

Diffusion

Following formal recognition of EM in 2009, and the formulation of policies around faculty criteria and minimum standard requirements, courses were permitted to start in two medical colleges in Gujarat – BJ Medical College and NHL Medical College. Gauhati Medical College in Assam had applied for the course in 2010, but decided to defer their application to the following year. Due to the advocacy efforts within Gujarat by the Academy of Traumatology, state and municipal government officials had been convinced of the need for these residency programs, and sanctioned budgets necessary to initiate the course. In later years, two other government medical colleges in the state –

Baroda and Surat – started courses, making Gujarat the only state with more than one government medical college offering the course. Overall, approximately 26 medical colleges, largely private, applied for permission between 2010 and 2015, and received permission to initiate the course. In this time period, nine medical colleges, including a rural, socially-oriented medical college in Wardha, Maharashtra, the Mahatma Gandhi Institute of Medical Sciences, applied but did not receive permission to start the course. The total number of residencies per medical college varied from one to three. As of December 2015, including two Institutes of National Importance, a total of 73 residencies have been permitted within 28 medical colleges.

By December 2015, 15 medical colleges were eligible for recognition, meaning that they required a final inspection at the time that their first batch was due to graduate. However, only four of these medical colleges passed this final inspection and were formally recognized, leaving 11 medical colleges temporarily de-recognized and awaiting re-inspection during the compliance period, a process that can take up to 2.5 years with no resolution.

Respondents from medical colleges described varying influences in initiating the course. Several respondents involved in initiating MD courses discussed the exposure of medical college leadership to the specialty abroad as a key influencer. Others described the role of the pre-2009 MD courses in generating specialists to diffuse the idea of the course to other institutions. A few respondents noted the role of professional associations such as INDUS-EM in providing platforms for directly advocating with medical colleges for this

specialty. One respondent noted that medical colleges might have also expressed interest due to the perception in the eyes of students that EM was a 'paying' field, and therefore, carried financial reward in the form of fees for the colleges that initiated the course.

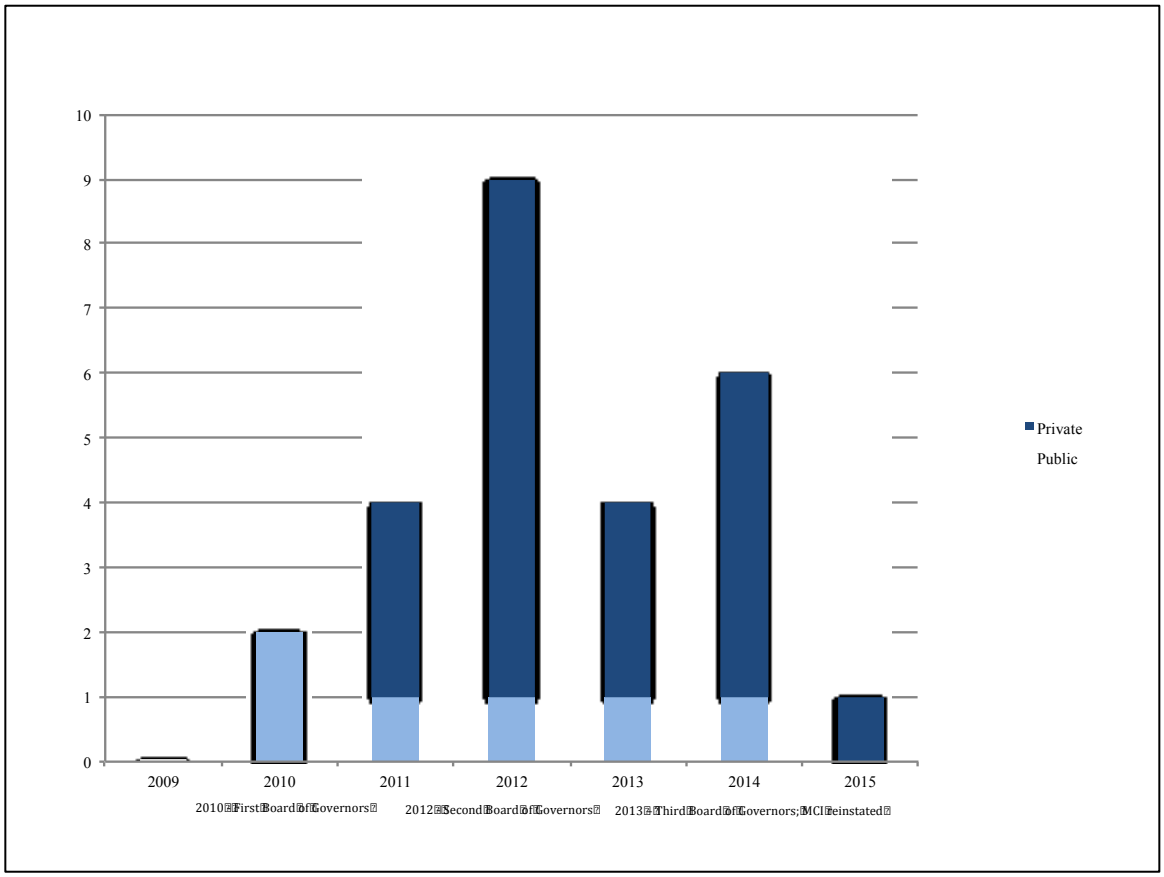


Figure 5: Diffusion of new MCI-EM courses in India 2010-2015

As noted in Figure 5, the diffusion of EM courses appears to track closely with the periods of reform at MCI. Respondents involved with the first two Boards of Governors noted that they were comfortable with being more flexible around providing permissions for new courses. Some respondents also noted more receptiveness from the first two Boards of Governors to requests for policy discussions. Following the reconstitution of

MCI in 2013, there appeared to be a stark reduction in permissions, and particularly, recognition, particularly from mid-2014 onwards.

Beyond the broader issues at MCI, some EM stakeholders interested in starting the course have had difficulty building interest or securing permissions from their own medical college leadership and other institutions in their ecosystem. Interested stakeholders within some medical colleges also hit a wall of resistance with representatives from other specialties who are not convinced that starting a course would be in the best interest of their institution. From a faculty development perspective, several respondents spoke of major challenges in convincing faculty from other departments to join EM full-time, such as the loss of seniority in their parent Department. Some respondents also discussed the difficulties in securing government funds for faculty positions in the case of government medical colleges; faculty positions are permanent positions and include a pension, and therefore, are subject to intense scrutiny within government. Finally, a few respondents noted that student interest in the course might have diminished in recent years, leaving medical colleges with the impression that the course is not marketable.

Many respondents expressed disappointment with the pace at which EM courses have spread in India, although some did note that EM has taken off far better than other new specialties, such as Palliative Medicine and Infectious Diseases. For example, there is only one MD course in Palliative Medicine, and there are no MCI approved courses in Infectious Diseases. For those stakeholders who felt that the growth of EM had been disappointing, stakeholder groups were at odds regarding who bore responsibility for the

situation. One MCI stakeholder felt that private colleges have not invested in the course adequately due to their perceptions of the lack of return on investment. Another MCI stakeholder noted that the lack of growth in the field could be due to limited awareness amongst medical colleges, a lack of confidence in starting the course, and perhaps, restrictive faculty criteria. Some EM stakeholders conversely placed the blame on MCI, noting that they have not appropriately promoted the course amongst their medical colleges. Others believed that the factors noted above, such as resistance from other specialties, issues with faculty development and diminishing interest among students, were the primary reasons behind the slow growth. One respondent commented on the stubborn challenge of instilling interest amongst medical colleges:

"Our problem now is at the implementation stage where we cannot convince them to start. MCI is great but how does that matter if a hospital doesn't want update it. Job is half done….how would you help institutions like X to actually take the concept?"
International stakeholder

Some EM stakeholders noted that the difficulties in generating interest among medical colleges would only effectively be solved if MCI mandated the establishment of these Departments as a pre-requisite to approval for undergraduate courses. Similarly, a stakeholder from Family Medicine, a specialty experiencing considerable sluggishness within the MCI system, offered the analysis:

"So something which is not recommended or mandated by Medical Council they [medical colleges] are not bounded, or they will not burden themselves to do those things." Family medicine stakeholder_A13

The previous chapter touched on the growth of unrecognized residency-style courses in the private sector, such as the MEM courses and the MCEM exam. The period between 2010 and 2016 also saw rapid growth in these courses. For example, the number of MEM courses offered by George Washington University grew to nine, the number of MEM courses offered by SEMI grew to 41, and the MCEM examination is now offered in Chennai, Hyderabad and New Delhi (along with an accompanying residency program in Apollo). Some respondents felt that the relationships and conflicts between the stakeholders in the agenda setting period led to perhaps less emphasis on the MD courses from stakeholders such as SEMI from 2010 onwards. However, SEMI stakeholders did play a major role in the establishment of the EM course offered by the NBE.

Implementation

Some respondents noted that the initiation of the MD courses, while sometimes challenging, has been an important step within some institutions. Faculty respondents discussed the ability for faculty to now spend an extended period of time engaging with students around EM, rather than having to force fit numerous topics into a one- or two-year course. Other respondents discussed the active engagement of certain EM Departments with pre-hospital care services, such as the 108 emergency response service (a public-private partnership delivering pre-hospital care), and the positive impact of those partnerships. A few respondents noted that EM courses had allowed for helpful

interactions with international stakeholders in the context of teaching and patient care. Finally, one graduate expressed confidence in the skills obtained through this program, and believed that others in the ED, such as nurses and CMOs, were pleased at the focused attention given to patients in the ED by these residents.

Despite these successes, respondents noted major challenges with implementing MD courses within medical colleges.

1) Boundary confusion: Several respondents discussed issues of 'boundary confusion' between specialties when initiating EM courses. Respondents spoke of a lack of clarity on admitting privileges within the ED, the availability of surgical services, and the extent to which EDs are involved in ICU care, pediatrics and OB/GYN.

2) Organization of the ED: Respondents also discussed the challenges of managing EDs with just a handful of residents and consultant staff. For example, one respondent discussed how the policy of having only one or two residents per batch hinders effective functioning of the ED, as those students are unable to effectively manage high patient volumes, particularly in Government institutions. Further, due to the 24-hour functioning of the EDs, a few respondents discussed the difficulties in equitably arranging shifts for these students.

3) Sectoral challenges: Respondents discussed key difficulties of administering the EM course in the public sector, particularly around the lack of interest of faculty members to

reform service delivery, continued use of CMOs to organize patient flow and tackle medico-legal cases, and challenges in obtaining funding from state authorities to expand existing programs through more faculty positions and infrastructure. In the private sector, the relatively limited number of patients has led to fewer teaching opportunities for students.

4) Coordination: Respondents noted that the medical colleges offering the course are operating in a largely autonomous manner, and that there are only occasional instances when colleges engage around the courses. One respondent believed that the lack of coordination across the colleges led to a lack of uniformity, which in turn negatively impacted the growth of the field.

"Yeah, so they are not interconnecting with each other. So they are not sharing ideas and they are not taking guidance from each other. So everybody is working autonomously to develop their own department. So there is no uniformity in those 25, and so that's why it is not as developing branch as I expected." EM Graduate

5) Quality of faculty: Respondents noted that the inflexible faculty criteria had led to difficulty in finding committed faculty. Respondents also reported the trend of faculty on occasion being forced out of their home departments by medical college leadership, reducing their motivation and incentive to perform in their new Department, and potentially making them less effective EM faculty.

"See that issue will not work, if you try to push people to do things which they don't like to do, and that happens with every profession. How can you ask a bowler to do batting in a cricket match or the batsmen…to take wickets when he bowls? Some people can do both and that's why we say anesthesiologist can be emergency physician if he is interested. If he or she is not interested, you try to push then it's a problem." Public sector medical college representative

"So the problem was that my faculty didn't read that Tintenalli or Rosen's even once in last 3 or 4 years. So that was a sad thing, even though they are the professors of emergency medicine they didn't know anything about emergency medicine, they didn't try to read even once. So that was the worst part." EM Graduate

The previous chapter touched on the tensions that emerged between international and national stakeholders in the EM policy network. Respondents discussed how these conflicts played out on an institutional level, such as the reduced emphasis on international faculty contributing to teaching in certain medical colleges. One respondent noted that another key consequence of the diminishing role of international stakeholders in EM programs was that students were given fewer opportunities to interact with these faculty members, and therefore, had lost out on important sources of knowledge.

"I guess very disappointing, and very sad for us that their involvement is going because of our, I mean, what you can say, our egos. We have thought that we have known emergency medicine by heart but it's not the case. A lot of things can be done in the field,

to improve the field. So the involvement of international stakeholders should be there increased, rather than getting down." EM Graduate

6) Curriculum: From 2010 onwards, EM courses have been implemented without a standardized curriculum. Curricula for programs appear to have been sourced from national and international networks. Many respondents spoke of institutions in high-income countries sharing EM course curricula, and the adaptation of those curricula to the Indian context. The lack of a standardized curriculum appears to have contributed to aforementioned issues of boundary confusion, for example, contributing to confusion around rotation policy.

A major challenge associated with the lack of emphasis on curricula is that students are often unaware of what their assessments would be based on, particularly in the case of the written and oral exams taken during their final year. Exam patterns are based on broad guidelines provided by MCI – four written papers and a practical exam – and Universities then formulate questions for each paper. One respondent described ambiguity around what students would be specifically tested on in those examinations. Another difficulty is that external examiners, a requirement of the oral examination process, might have a different interpretation of what the EM curriculum consists of, therefore creating an unclear scenario for students.

Regulation: Inspections, Permissions and Recognition

The first chapter discussed the system of inspections, permissions and recognition that form the foundation of regulation for postgraduate medical education in India. Inspections are conducted by faculty from government medical colleges working in the concerned department. Inspectors are then required to use the Standard Assessment Form (SAF) to conduct their inspections, and must then share their findings with the PG Committee, without indicating their perspectives on whether the course should be approved or not. Private medical colleges must pay inspection fees, and in some cases, show a minimum bank balance to the inspectors. The PG committee then reviews the inspection report and makes a final decision on permissions and recognitions. Medical colleges that do not clear the inspection are allowed to respond to the concerns raised during a compliance period. Another inspection is conducted for that period, after which the PG committee once again takes a decision on whether to approve the course.

In the case of EM courses, respondents described feeling a scenario of fear and confusion around these regulatory processes, and were deeply concerned about the increasing numbers of de-recognitions in 2015 and 2016. In their efforts to establish courses, respondents described major challenges in interpreting the guidelines issued in the SAF, particularly since 2014, and some respondents noted that the Board of Governors appeared more flexible to issues of faculty criteria.

Some respondents noted the approach taken by MCI of slightly modifying the requirements of other specialties to suit EM was fundamentally flawed, as they believed that EM required markedly different considerations around service delivery from other

specialties, such as transitory beds and spaces, as opposed to clearly defined in-patient and out-patient beds. For example, as observed in Figure 6, there are separate categories within the 2016-2017 SAF for OPD, IPD and Casualty, when in practice, Emergency Departments and Casualty are meant to be one and the same.

6	***Number of patients on the day of inspection in Emergency Medicine department***	OPD	IPD	Casualty	Bed occupancy	Surgeries

Figure 6: Assessment criteria from 2016-2017 EM Standard Assessment Form

Inspections appear to be a contested bureaucratic process, with the medical colleges, inspectors, and medical colleges seemingly at cross-purposes. From the perspective of medical colleges, respondents raised several concerns regarding the role of inspectors. From 2014 onwards, a review of the assessment reports suggests that the same four faculty members have conducted the majority of inspections, and a few respondents noted that some of these inspectors were not adequately well-versed in EM. An implication was that there appeared to be significant differences amongst inspectors regarding the boundaries and scope of EM. For example, some inspectors believed that the 'casualty' and the ED were meant to be separate. Another respondent noted that inspectors appear to focus on different aspects of the SAF during their review.

"It depends a lot on the person who comes, every inspector has their own individual idiosyncrasies and their own ideas…" Private sector stakeholder

Inspectors took a different view, suggesting that they were primarily following instructions regarding what to assess based on the SAF, and that they sometimes played a supportive role to the medical colleges.

"...as inspector if we find in our assessment, we find that they have misinterpreted and they have the things but they don't mentioned it we can always tell them that this is what used to be mentioned here." Public sector medical college

Above all, inspectors interviewed noted that their role was to stick firmly to the assessment criteria in the SAF, and that decision-making was entirely up to the PG committee of MCI.

The decision-making of the PG committee, the ultimate authority in the regulatory process in this case, is largely opaque. According to publicly available meeting minutes, PG committee meeting involves nearly 150-200 agenda items, the vast majority of which concern reviews of inspection reports for PG courses in order for the committee to decide on whether to recommend approval or disapproval of an application to the Central Government. As noted in the regulatory architecture chapter, the Central Government rarely interferes in these decisions, and therefore, MCI's recommendation is typically seen as the final decision.

In the case of EM, the period of de-recognition appears to have begun in 2015. The PG committee has provided several reasons for disapproval for each course, and these have

been broadly categorized in Table 18. Many EM respondents felt that these stated reasons conveyed a major disconnect between EM stakeholders and the PG committee on the basic definition, scope and boundaries of EM. Chief among the causes for de-recognition appears to be challenges in meeting the faculty criteria, with potential faculty not having appropriate EM training from the Committee's perspective. Many respondents reported considerable confusion regarding the faculty criteria, particularly in regards to what experience qualified as teaching experience. Respondents also expressed confusion about the configuration of the faculty; for example, respondents were unclear whether MCI allowed all faculty to be from one Department, or whether faculty needed to come from multiple departments. Other faculty-related reasons include the absence of administrators and faculty during the inspection process. Inspections are typically done without notice, and faculty members are therefore not always present on the campus. According to MCI, certain types of absences, such as maternity leave, are sanctioned. However, the meeting minutes, and respondent statements, indicate that such absences have been listed as reasons for de-recognition.

Other reasons pertain to the MSR, and the meeting minutes indicate that the Committee holds an entirely different understanding of the scope of EM, making repeated mention of the fact that beds in the 'Casualty' cannot be counted as beds in Emergency Medicine, despite these services being one and the same. The Committee also appears uncomfortable with the concept of the ED as a transitory space within the hospital, and repeatedly questioned the absence of in-patient beds. They also appear to prioritize the need for surgical services in the ED, despite insistence from national and international

EM stakeholders that such services be separated from the ED. On a few occasions, reasons for disapproval focused on major irregularities on the part of the medical college, such as non-existent Departments and hastily transferred staff.

Finally, the major assessment of teaching quality appears to be related to the patient load, including adequate bed occupancy. Interestingly, the listed reasons include the reporting of deaths in the ward as a marker of illness severity amongst the patient population, and therefore, serves as a marker of quality of patient load for teaching purposes. There is seemingly no mention of the curriculum or quality of teaching in the listed reasons for de-recognition.

A former government stakeholder noted that the sharp reduction in permissions and recognitions from 2015 on could be due to the need for the reconstituted MCI, which had once again found itself the subject of much scrutiny, to show that it is strictly adhering to quality control and standards.

"…right now they are on the defensive where everybody is criticizing the MCI, including foreign media pointing out the corruption and pointing out the standards and so on. So they could also be trying to pretend that they are now very vigorous on standards and there's no need to reform them because they're doing well…" Former central government official

An EM stakeholder considered whether the incongruences observed in the regulatory process pointed to a hidden agenda.

"…if you look at the reasons for rejection, in the same year one institution would be assessed and declared rejected because general surgeons are posted in the emergency department and being shown as faculty. The same year you will see a department is rejected because there is no surgeon as part of their team...So therefore if you have a surgeon you get rejected, if you don't have a surgeon you get rejected. So is the objective to reject, is the question?" Private sector medical college representative

Table 18: Reasons provided by the Postgraduate Committee of the Medical Council of India for denying permission or recognition of EM programs	
Distinction between 'casualty' and Emergency Department:	"Casualty beds are counted as Emergency Medicine beds which is not permissible. Explanation of institute that there are no guidelines is not acceptable as the guidelines for a PG Unit have been well defined in PG Medical Education Regulations." November 24 2015 "10 ICU beds & 22 Casualty beds are shown as beds of department of Emergency Medicine which is not permissible." "There are 2 Units in the department. Out of these 2 Units, 1 Unit does not have any bed in Emergency Medicine ward as all its beds are in Casualty (25 beds) & ICUs (15 beds). Second Unit has only 15 beds in Emergency Medicine ward & the rest are in HDU & ERICU. Resultantly, no Unit has full fledged 30 bedded Emergency Medicine ward." September 15 2015 "The college authorities have shown casualty ward as emergency medicine department, which is not permissible." October 23 2015 "As per the compliance report, patients coming to Emergency Medicine Dept. do not remain there full time. After initial assessment and stabilization the patients are admitted to the concerned parent Department. This means the Dept. is counting Casualty beds as their own beds, which is not permissible." 30rd – 31st January 2015
Beds, service flow and admitting privileges	"Emergency O.T. is not available. It is done by the respective Surgical specialty which cannot be considered as for Emergency Medicine. "Services like Bronchoscopy, Echocardiography, Endoscopy, Preoperative beds, Postoperative beds are not available." November 5 2014
Quantity and quality of cases.	"There is no death reported in the department in the last year which indicates poor quality of teaching material." "Minor Emergency O.T. workload is only 1-2/day which is inadequate." July 14 2015 "Average number of patients daily in IPD during last 3 years was 94, 96 and 102 respectively against 30 beds, which is not feasible. 5. ICU, NICU, PICU has been counted as emergency department Beds, which cannot be permitted. They are beds and patients of parent departments, which is essential requirement for them. 6. There were total of 23 deaths in one year in Emergency Department, which indicates no serious emergencies were admitted." July 28 2015 "There is no death in the department of Emergency Medicine during last one year. This obviously means, Emergency department has no independent beds and does not admit any serious patients under their care without which, the training of the PG students will be inadequate.

	Total number of patients in IPD (Emergency Ward) in the year 2014 were 15149, which means 50 admissions per day against 30 beds, which is not feasible. 7. On the day of Assessment, OPD of the Emergency department was 2341 and average daily OPD was 2215, which is not feasible. Daily admissions in Emergency department through Casualty was 182 against 30 beds, which is not feasible. All data is non-genuine." July 28 2015 "OPD attendance was 46 on day of assessment upto 12 noon. 2. Bed occupancy was 60 % on day of assessment." August 11 2015 "If 27 patients are admitted against 30 beds then stay of each patient in Emergency department is only one day, which is not feasible for really sick patients." December 11 2015
Faculty criteria	"Both Professors have 2 years experience in Emergency Medicine. Rest of the experience is in their parent Department." December 23 2014 "Deficiency of no training in Emergency Medicine by any faculty remains as such. Experience in Casualty department in the same institute where department of Emergency medicine did not exist cannot qualify as training in Emergency Medicine." November 24 2015 "All staff have General Medicine qualifications and there is no staff from Anaesthesia, Orthopaedics and Surgery." August 26 2014
Faculty absences	"Dean was on leave on day of assessment. Hence his 'Details of Faculty' could not be verified. 2. Although Asst. Prof. from the departments of Anaesthesiology, General Surgery, Emergency Medicine have been appointed, three of them were on leave / absent on day of assessment." August 11 2015
Irregularities	"Doctors & Nursing staff working in Casualty knew nothing about the department of Emergency Medicine." October 9 2015 "Department of Emergency Medicine does not exist as such. There is no office, no seminar room, no departmental library, no offices for faculty." "In spite of repeated requests, no faculty member was shown to the assessor till 1:30 p.m., no D.F. were given & no S.A.F. was provided till 6 p.m. on day of assessment." October 9 2015 "Vice Principal prepared single appointment order of all faculty…on day of assessment." October 9 2015 "There is no pantry in ward."

	"Some of Senior & Junior Residents are not staying in campus; hence not considered."
Impact of EM on other specialties	"In this report it is stated that 10 bedded MICU & 10 bedded SICU are with this department; while in the SAF for Emergency Medicine, it is stated that 10 bedded MICU & 10 bedded SICU are intensive care facilities for the department of Emergency Medicine. Thus, there is dichotomy, which cannot be accepted." [MD Anesthesia, November 6 2015]

Linkages between Formulation, Diffusion, Implementation and Regulation

These findings indicate complex linkages between formulation, diffusion, implementation and regulation. Some respondents commented specifically that the diffusion of these courses is impacted by the faculty criteria formulated and potentially by the series of de-recognitions that have occurred. Similarly, several respondents believed that implementation has been impacted most seriously by the inflexibility of the regulatory process, in large part due to the lack of clear guidelines from the formulation process.

"In practice the thing is MCI haven't actually given proper guidelines. Now suppose they have laid out 12345, these are the things that you need to run the course or to get recognized but every medical college would follow it, but they have not done that."
Private medical college representative

Some respondents believed that the challenges in implementation pertained to the overall nature of regulation adopted by MCI, an approach that emphasizes purported quality of the programs over more rapid proliferation of the course. Some respondents discussed the trends of compliance, inflexibility and non-communication that had permeated MCI's institutional culture, and its resultant impact on the growth of the field. Some also noted that MCI had simply not done its due diligence in understanding the scope and competencies of EM. Another example of the confusion within MCI regarding EM was a discussion during a General Body meeting in 2015 where EM was repeatedly referred to as a super-specialty [MCI General Body Meeting Minutes, October 2015]. One

stakeholder believed that in trying to appear impartial and equate EM with any other postgraduate field, MCI had misunderstood the basic design and function of Emergency Departments, such as mandating 30 in-patient beds or requiring Emergency Departments to perform surgeries.

"The problem with the Medical Council of India is they wish to be impartial…So what they say is look, if this specialty requires all these prerequisites, they are the same for you." Private sector medical college representative

Outside of the difficulties noted at each of these four stages, respondents also discussed the broader consequences of challenges in the EM postgraduate training system. The most serious consequence has been the perspective that EM programs are losing credibility, and therefore, students are not as interested in joining these courses. This lack of credibility in the MD courses is further exacerbating the growth of non-recognized courses, such as the MEM.

"So now as there are not many MDs or DNB recognized emergency physicians, the hospitals are taking up those MEMs and non-recognized emergency physicians….So students get afraid of having proper jobs after their post-graduation, so they are not taking up these courses. And because of that bad students are now taking up these courses, the average or below average students are taking up, and the credibility of this department are getting down. So that's why, even hospitals are not in favor of…giving

power to emergency medicine because credibility is getting down. It's a vicious cycle, day by day, vicious cycle is on and somewhere we have to stop this." EM Graduate

Students who have graduated from de-recognized courses still appear to have promising opportunities in private sector EDs and ICUs. However, should their degrees continue to be invalid, these graduates will not be allowed to join medical colleges, reducing the pool of eligible faculty once existing criteria are relaxed in 2019, as per the TEQ guidelines. For those individuals who have recognized EM degrees, a few faculty members also noted that the absorption of these graduates into the academic system, a key objective of initiating EM postgraduate courses, has not taken place.

"…we haven't done a really good job in terms of absorbing them into training institutions. Somehow we have not made the jobs attractive enough to them and have not explained the future prospects in terms of academic growth. So although the job opportunities are plenty, paradoxically nobody seems to be occupying with those positions." Private sector medical college representative

Discussion

Before discussing the key findings of the study, I will note some its limitations. First, due to the geographic spread of medical colleges offering EM in India, I was unable to ensure representativeness in my sample of medical college respondents. Therefore, these findings might not include key themes or reflections pertinent to a robust understanding the implementation of EM in the MCI system. Second, certain MCI respondents did not

recollect specific details of their decision-making related to EM, and therefore, these findings do not reflect these nuances in the formulation process. Third, I was unable to secure certain interviews and obtain particular documents related to MCI, and therefore, the findings do not incorporate potentially important perspectives or facts regarding the institution.

I have previously discussed the widespread advocacy undertaken by the EM stakeholder network with MCI around the formal recognition of EM as a medical specialty. Stakeholders discussed numerous objectives for seeking formal recognition, but chief among these was the importance of generating specialists to expand the reach of EM services across the country. The findings in this chapter suggest that the processes of formulation, diffusion, implementation and regulation processes involved with generating specialists, specifically within the MCI context, were immensely complex, making the achievement of that objective – the generation of specialists – a major challenge. Here, I discuss findings in the context of existing research on health sector policy formulation, implementation and regulation from other low- and middle-income countries.

The absence of meaningful engagement and consultation between MCI and EM stakeholders has seemingly had a negative impact on the growth of EM courses, particularly as more input from EM stakeholders might have resulted in clearer implementation guidelines, therefore averting the recent spate of permission and recognition denials. The distinct lack of steps highlighted by Berlan et al. (2014) – generation of policy alternatives, deliberation and/or consultation, and negotiation on

policy alternatives – is striking. The basis for the insular approach taken by MCI might lie in the considerable powers devolved to MCI by the state, resulting in a lumbering and 'ossified' bureaucratic operation that closely resembles other state-led bureaucracies (Parliament of India, 2016, Gupta, 2012). Macrae et al. (1996) note in their research on policy formulation in post-conflict Uganda that the bureaucracies adopt instrumentalism in policymaking, resulting in a lack of more meaningful policy deliberation or reform. In a similar, but perhaps more politicized vein, the bureaucracy of MCI appears to take administrative, rather than technical, approaches to policymaking. The emergence and formulation of operational policy, such as faculty and the MSR, from consultative processes rooted in the technical aspects of these fields might obviate some of these challenges. Lee et al. (1998) studied the formulation of family planning programs in eight LMICs, and found that those countries where policy risk was 'spread' across a wider group had more success in adoption and implementation. The closed nature of policymaking also appears at odds with the more open mechanisms for dialogue on particular policies in countries such as Thailand, Ghana and Brazil (Tantivess and Walt, 2008, Koduah, 2016, Cornwall and Shankland, 2008).

Curriculum development in medical education in India had been previously discussed as a highly contested process, resulting in the privileging of certain voices – regulators, academics, and sometimes politicians – at the expense of other key stakeholders, including professional associations, students, and the public at large (Sood, 2012). I want to build on this assertion by suggesting that at the post-graduate level, the experiences of new specialties such as EM, Palliative Medicine and Family Medicine indicate that MCI

plays its role of arbiter in a highly unsystematic and non-transparent way. The findings indicate that MCI promoted certain professional voices over others, and ultimately did not disseminate prepared curricula, an approach confirmed by respondents from other new specialties. The case of EM also illustrates the consequences of operating without a standardized curriculum – institutional confusion about the boundaries of EM, assessments derived from textbooks rather than competencies, and a considerable dependency on curricula from HICs. More systematic and inclusive processes are necessary in order to ensure standardized curricula that reflect basic understandings of these specialties.

The diffusion of medical specialization and innovation from high-income countries to India has been the subject of some commentary and research, most recently in a study by Jones (2015) on the diffusion of the heart-lung machine in post-colonial India. Their findings indicate that rather than being a passive recipient of this technology, Indian doctors strategically mobilized, utilizing their international networks to adapt the technology to an Indian context (Jones, 2015). My findings suggest that some Indian stakeholders similarly utilized their experiences abroad and their networks to introduce and strengthen EM in their institutions. However, in some instances, the efforts at diffusion appear to have collided with the arcane regulatory culture of MCI, and also, been complicated by power dynamics within institutions, potentially complicating issues such as boundary confusion, curriculum development, and faculty selection. Furthermore, analyzing the diffusion of EM through the lens of global policy diffusion theory illuminates the influence of socialization, learning and legitimation on policy

uptake, and the hidden ways in which these factors underpinning diffusion interact in order to produce implementation at the institutional level (Bennett et al., 2015, Greenhalgh et al., 2004). An implication from this case is the consequence of taking 'cognitive shortcuts' in considering the implementation of a particular policy idea; in other words, the concept might seem robust due to our warranted or unwarranted perceptions of its effectiveness, but is often not rigorously judged and considered in the context in which it will be implemented (Weyland, 2005). The next chapter will delve into the power dynamics underlying these developments, but here, I suggest that stakeholders promoting the diffusion of specialties in medical colleges and institutions might be better served by acknowledging the cognitive dimensions underlying their decision-making, and should therefore approach implementation in their contexts more rigorously and cautiously.

Medical colleges also contended with a restrictive regulator in MCI, creating considerable fear, confusion, and cynicism in the system. The institutional culture of MCI appears to be one of its greatest impediments. The experience of EM reveals a slow-churning and largely unaccountable bureaucracy at work, a reflection of broader challenges with the modalities of the Indian state (Gupta, 2012). Gupta (2012) notes that one of these modalities, inspections are 'a feature of all levels of the bureaucracy and reinforce the rule-following orientation of Indian government bureaucracies". My findings on MCI's use of inspections as a tool for domination support Gupta's assertion of inspections as a key mechanism to discipline subjects, focusing on the procedure rather than the outcome (Gupta, 2012). The absence of implementation guidance from MCI has

also led to vastly different interpretations of the faculty policy and the MSR by the PG Committee, the inspectors, and the medical colleges, with distinct consequences for the fate of these programs. These issues can also be viewed in light of what Sterman (2006) calls policy resistance, or the 'tendency for interventions to be defeated by the system's response to the intervention itself'. I therefore argue that the process of permissions and recognitions to be infused with smoother channels of communication between MCI and the medical colleges, and other platforms for accountability for the actions taken by MCI.

My findings also support the work of Sheikh et al. (2013) in their assertion that health sector regulatory institutions in India lack sufficient human resources; a review of the agenda for PG committee meetings highlights the incredibly large regulatory burden on the institution, perhaps limiting the ability for reflection and deliberation. Research on regulatory institutions in health sector from other LMICs have similarly found substantive challenges in the ability for these institutes to meet their expansive responsibilities due to capacity and resource constraints (Doherty, 2015, Söderlund and Tangcharoensathien, 2000, Ensor and Weinzierl, 2007). However, MCI differs from many others in that the institution does hold considerable financial resources through Ministry funding and inspection fees (Parliament of India, 2016). The shortage of both technical and administrative capacity appears more pressing in the face of increasing privatization of medical education in India, particularly due to the reports of certain private medical colleges heavily comprising the quality of education and medical care (Mazumdar, 2015, Parliament of India, 2016). Doherty (2015) also notes that issues of low capacity and extensive responsibility are exacerbated by both the rapid growth of the

private sector and limited oversight of Ministry of Health in many sub-Saharan African countries. Tackling the challenges of capacity and the specific responsibilities that any one regulator should hold therefore appear paramount in reforming regulatory approaches in these settings. In India, the recently proposed National Medical Commission (meant to replace MCI) does not appear to have a reduced role in overseeing the medical profession; rather, their responsibilities are only set to increase (NITI Aayog, 2016). Therefore, the Commission would be well served by expanding its human resources in terms of both invited technical experts and permanent staff.

Finally, a critical factor to contend with is the shadowy political economy of medical education in India, in which MCI is both an accused and a protector (MacAskill, 2015, Baru, 2015, Mazumdar, 2015). MCI has been an alleged participant in the corruption that has pervaded the system over several decades, thereby feeding into the culture of impropriety in medical education (Parliament of India, 2016, Baru, 2015). However, as a result of the fraudulent behavior of some medical colleges, MCI as an institution has taken an exceedingly punitive approach to regulating *most*, leaving better-intentioned and better-administered medical colleges in the crossfire. The challenges that these medical colleges face – unwillingness to initiate courses due to fear of entanglement, and their difficult experiences during the recognition process – have potentially harmful impacts on the broader system. For example, one possible consequence is that the absence of academic departments in medical colleges and tertiary hospitals, particularly those in the public sector and in rural areas, limits the ability for specialists to function at the tertiary care level, and by extension, their potential to interact with primary and secondary care as

part of the referral chain (Parliament of India, 2016). Another possible consequence is that due to perceived obstacles in the MCI (and NBE) systems, unrecognized courses in the private sector could proliferate, furthering the existing mal-distribution in specialization between the public and private sectors. Addressing the underlying, thorny issues of politics and money in medical education, potentially through the National Medical Commission, would therefore be a crucial step in developing a robust system of postgraduate medical education that supports and contributes to health system strengthening and improved health outcomes.

Conclusion

This chapter on formulation and implementation outlined the trajectory of EM in the Medical Council of India, revealing the impact of the regulatory culture of the institution on the overall development of the field. Three main conclusions arise from the findings presented here. The first is that the bureaucracy of MCI has prioritized administrative, rather than technical, processes in their approach to formulating policy for new postgraduate fields, and these administrative processes sometimes lack meaningful consultation and dialogue with key stakeholders from the specialties themselves. This lack of dialogue results in ambiguous policies generated by MCI that are subject to interpretation by all groups involved, particularly the medical colleges. The second conclusion is that the challenges with implementing new postgraduate programs within medical colleges might have their roots in the nature of diffusion, in that the perceptions held by medical college leadership of the suitability of the field might not align with the

broader culture of the institution. Taking a more considered approach to understanding the opportunities and threats faced by a new specialty within an institution could ameliorate some of these 'growing pains', and can also result in improved systems of education for residents, and service delivery for patients. The third conclusion is that the system of inspections have created a culture of fear and confusion amongst medical colleges, and the spate of de-recognitions of EM have potentially damaged the growth of these new fields in an academic context. Preparing more structured implementation guidelines, developing less opaque processes of inspections, permission and recognition, and providing platforms for medical colleges and students to voice their opinions with MCI could greatly improve dynamics in the regulatory system.

Chapter 5: Power, policy and specialty development: The case of emergency medicine specialization in India

Introduction

Previous chapters have described the uneven and unpredictable trajectory for the growth of Emergency Medicine (EM) in India. Our analysis of the regulatory architecture of postgraduate medical education in India revealed a complex, fragmented system, with limited accountability and oversight for institutions such as MCI. Within this context, stakeholders within India and from high-income countries laid the groundwork for promoting EM as a medical specialty, advocating strongly with MCI for formal recognition between 2000 and 2009. However, during the impasse between MCI and EM stakeholders in the 2000s, fractures emerged in the stakeholder community, deepened by competing ideologies around the way in which academic emergency medicine should develop, the role of the private sector, and the role of international stakeholders. Following formal recognition in 2009, EM has been marked by both promise and turbulence, including the relatively slow diffusion of the program across medical colleges, growing unease regarding the seemingly heavy-handed regulation of the EM courses by MCI, the popularity of unrecognized training programs in the private sector, and a largely urban, private sector orientation. The experience of EM, while undoubtedly positive in some respects, in many ways reflects deeper challenges with the Indian system of medical specialization (Ananthakrishnan et al., 2012).

The unpredictable and ad hoc nature of this case suggests underlying dynamics that warrant further examination. Policy development is often subjective and multi-faceted, and analyzing how and why processes and outcomes take the shape that they do requires peeling back layers to understand the hidden forces at work (Walt et al., 2008). In this case study, the constellation of actors, their complex relationships with one another and their efforts within an opaque regulatory environment and a fast-changing contextual landscape suggest that one such hidden force is power. Power is at the heart of policy development, including in the health sector, and explorations of power dynamics can facilitate a deeper understanding of the actors, their relationships and networks, contextual factors, processes and outcomes (Buse et al., 2009). Furthermore, power analyses in the health sector can encourage reflection amongst stakeholders for how to best change configurations of power so that they are more equitable, transparent and fair (Gaventa, 2005). Recent studies and commentaries investigating health policy development within low- and middle-income countries (LMICs) have successfully applied the lens of power in analyzing and understanding why events unfold in particular ways (Shiffman, 2014, Dalglish et al., 2015, Koduah, 2016, Walt et al., 1999, Baru, 2013). Research has shown how the sources of actor power may privilege some over others within the policy sphere, how actors apply their power to achieve policy objectives at the expense of other alternatives, and how power dynamics shape the broader context in which policies develop (Shiffman and Smith, 2007b).

This case study for the development of EM in India, and the development of medical specialties in the country more broadly, is ripe for further analysis through a lens of

power. The process of medical specialization is largely driven by elites, and the presence of a complex, fractured and transnational elite network in this case deserves further exploration, particularly regarding how stakeholders derived and applied their power in achieving their policy objectives and in their relationships with one another. The behavior of the regulatory institutions, particularly MCI, signals a highly charged and fragmented regulatory environment where opaque decision making processes have significant implications for the development of the field. Finally, the broader context in which EM emerged, primarily the growing role of the private sector, increased transnational linkages between India and high-income countries, and the rapid growth of EM around the world, signifies fast-changing power dynamics in the setting in which this case unfolds. Analyzing power dynamics in this case presents an intriguing lens with which to view medical specialization – an issue that largely sits at the margins of health policy and health systems, but one which continues to reshape and redefine health systems in many low- and middle-income countries (Frenk et al., 2010, World Health Organization, 2000).

In summary, I believe that a power analysis of the development of EM in India can help illuminate and nuance some of the more hidden themes at the heart of this case. My goal in this chapter is to therefore analyze each area of enquiry in this study – the regulatory architecture, agenda setting, formulation, and implementation, through a lens of power. I will first describe a conceptual framework that builds upon my existing analysis of the case, and then apply the framework to better understand the role of power in shaping the

actions of stakeholders, and the trajectory of EM in India. In particular, I seek to answer the following research questions: -

1) What are the sources of power for national and international stakeholders in the development of EM as a medical specialty in India?

2) How did stakeholders apply their power to achieve outcomes or to shape the course of events?

3) How does an analysis of the sources and applications of power help us understand the trajectory of EM as a medical specialty in India?

Conceptual Framework

Power dynamics shape health systems around the world, and the study of power has emerged as an important, yet underexplored, theme in health systems and policy research in LMICs (Buse et al., 2009, Erasmus and Gilson, 2008, Gilson and Raphaely, 2008). The concept is inherently vast, complex, and underpinned by theory from multiple disciplines (Clegg, 2009). The diversity of ideas related to power has given researchers in the health policy and systems field an array of lenses through which key issues can be examined. In this analysis, I view power in two closely related categories – the sources of power, and the application of this power. Analyzing power in this manner allows an extrapolation of theory by describing observable and tangible examples of power

(Erasmus and Gilson, 2008). I have therefore looked closely into theory and literature around power to develop a conceptual framework that builds inductively from the findings of the previous chapters. Here, I provide a brief summary of the theoretical foundations for these concepts.

Sources of power: Actor power is often derived from a particular source, for example, resources, skills, knowledge or access (French, 1959). Recent scholarship has investigated the sources of power in specific examples of health policy development in LMICs, enhancing our understanding of how power runs through processes, and shapes the course of events (Dalglish et al., 2015, Koduah, 2016, Shiffman, 2014, Fischer, 2016, Lehmann and Gilson, 2013). In this case, I observed four main sources of power – technical expertise, bureaucratic power, financial power, and network power. These are overlapping concepts, and actors often derive power from one or more of these sources.

1) **Technical expertise:** Knowledge, and more specifically, technical expertise, is a well-recognized source of power in policy research. Technical expertise is often called upon to identify problems, outline objectives, develop policy alternatives, recommend solutions, and measure their effectiveness (Silver et al., 2002). Foucault (1994) discussed the evolution of power imbalances rooted in the emergence of disciplines, as a result of certain individuals developing expertise in a particular field, and the eventual transformation of others into subjects by the application of this knowledge. Freidson (1970) noted this appropriation of knowledge in the context of professionalism, positing that professions developed by adopting bodies of

knowledge not well understood or grasped by others. Professions concentrate this 'exclusive' knowledge by then controlling entry into the profession, therefore making 'institutionalized expertise' the source of their power (Scott, 2001). In this way, professions, such as medicine, derive power not only from the expertise or knowledge held, but also from the institutionalization of this knowledge through educational and professional milestones. Furthermore, perceptions of technical expertise may often be interlinked with attributes such as institutional affiliation or country of origin, leading to power asymmetries within stakeholder groups (Walt et al., 1999, Mosse, 2005).

2) **Bureaucratic power:** Bureaucracies are the administrative machinery through which policies are often designed, implemented, coordinated and evaluated by institutions, including the state (Gupta, 2012). The power held by bureaucrats emerges from their positions within the administrative system, combining authority within those positions, with the knowledge that is acquired while performing their duties (James, 2011). The most influential thinker on bureaucracy, Weber, wrote that bureaucrats enhance the "superiority of the professionally informed by keeping their knowledge and intensions secret", therefore indicating that bureaucratic power was amplified by the ability to conceal a particular body of knowledge (Weber, 1946). Theory on bureaucratic power extends to frontline workers, or frontline bureaucrats as termed by Lipsky, and examines the ways in which these frontline workers use their discretionary power to interpret or make policy in perhaps unexpected ways (Lipsky, 1980, Erasmus). Recent work from anthropology has explored the complexities in the dynamics between bureaucracies and citizens in LMICs, and in some cases, the ways

in which bureaucracies propagate structural violence against their citizens using bureaucratic tools (Street, 2012, Gupta, 2012).

3) **Financial power:** Financial power relates primarily to the power derived from accessibility to financial resources, and the use of that power in influencing decision-making. In the health sector, financial resources range from government control over national and sub-national health budgets, to the availability of supplemental funding through loans and grants by international donors, to resources generated by for-profit health care companies. Financial power, also known as economic capital, can be understood as internal – having the capacity to act – and external – the capacity to control others (Heep, 2014). Bourdieu (2008) argued that although economic capital was more lucrative than cultural capital, together, these forms of capital placed an individual in a highly advantageous position. Research from health policy development in LMICs have built on this idea by suggesting that financial power is often heightened by other sources of power, such as technical expertise or bureaucratic power (Koduah et al., 2016, Fischer, 2016, Dalglish et al., 2015).

4) **Network power:** Network theory posits that individuals are linked together through systems of relationships and interactions (Borgatti et al., 2009). Networks in their many structures and forms, such as issue networks or epistemic communities, often serve as a key source of power (Hanefeld and Walt, 2015, Rhodes and Marsh, 1992). A vast array of concepts govern the structure of networks, among which are individual attributes, such as seniority, experience and education, homophily, the

principle by which contact among similar people happens more frequently than among dissimilar people, and social affiliation networks, the principle connecting people to a particular focus, or foci, and to each other (Easley and Kleinberg, 2010, Rogers, 1983). In the policy sphere, networks are often comprised of elites who work with others to achieve their objectives through the sharing of resources, discourse and ideas; however, the structure, cohesion and effectiveness of these networks differ widely, and these variances to some extent might explain different policy outcomes (Wang, 2013, Shawar and Shiffman, 2016).

Applications of power: Power is derived from various sources, but is then often, directly or indirectly applied in the context of experiences, situations, or cases (Gaventa, 2003). The application, or exercise of power, is therefore an important line of enquiry in order to understand how power influences events and outcomes (Gilson, 2014). Acknowledging the vastness and diversity of theories and frameworks pertaining to applications of power – I have selected five concepts here that best captured themes associated with power that emerged from the findings of the previous chapters: -

1) **Domination:** A Weberian definition of domination or authority is "the capacity to get others to obey, as a result of discipline and/or habituation." (Jenkins, 2009) Weber contrasted power as the ability to achieve objectives in the face of resistance, including by means of physical coercion, and contrasted this with domination, or authority, whereby actors utilize their sources of authority – tradition, charisma and legal rationality – to get subjects to obey (Weber, 1946,

Jenkins, 2009). Domination can therefore be considered a combination of power and legitimacy, underscored by a degree of voluntary compliance (Gordon, 2009, Weber, 1946, Rudolph, 2006). Domination frequently works through institutionalized structures, and exists in multiple forms, including political domination, ideological domination, akin to symbolic capital, laying the groundwork for processes of socialization and legitimation to take hold, and bureaucratic domination, where state and civilian bureaucracies 'rule' populations through routine administration (Scott, 2001, Scott, 2000). Bureaucratic domination however is not passively accepted by subjects; rather, citizens often utilize a variety of strategies to combat this domination, often in the face of considerable opposition from the bureaucratic and political system (Gupta, 2012).

2) **Facilitative power:** Facilitative power suggests that actors can apply their power collaboratively to achieve shared goals (Fennell, 1999, Dunlap, 1991). Facilitative power is defined by "enabling, negotiating, empowering based on the sharing of power, and using power together with others to reach desirable ends." (Fennell, 1999). Early work on facilitative power focused on autonomous, professional societies, and is rooted in the 'interaction, negotiation and mutuality' often found in these organizations. In health research, facilitative power is most similar to what is termed 'power with', or the ability to find consensus with others, and to develop collective strength (Lehmann and Gilson, 2013).

3) **Socialization and legitimation:** The concepts of socialization and legitimation represent a more persuasive form of power that facilitates the building of value and commitment to a particular idea (Scott, 2001). Socialization, or signification, explains the voluntary adoption of an idea or a course of action, due to a perception of that idea being superior, modern or advanced (Dobbin et al., 2007). For example, a particular health policy might be more attractive due to its origination and utilization in a high-income setting, or through the promotion of social norms pertaining to the policy by powerful international actors (Bennett et al., 2015). Weyland (2005) further complicates our understanding of socialization by suggesting that actors often use 'inferential shortcuts' in assessing the suitability of a policy or intervention to their setting, and often limit adaptation due to anchoring, whereby actors 'confine modifications to peripheral aspects and retain the innovation's design principles'. Legitimation refers to the circumstance when a concept is actively promoted, and enables the building of value commitments to an idea or course of action (Scott, 2001). These concepts, representing both passive and active forms of value building, may sometimes work in tandem depending on the context and actors (Dobbin et al., 2007).

4) **Pressure:** Pressure can be seen as a form of counteraction, and can be understood as "an assertion of the wish or demand to be heard by those who dominate…" (Scott, 2001). This concept resembles that of resistance in the Foucauldian sense, wherein individuals work within their power dynamics to resist authority or domination (Foucault, 1994). Operating from different power bases, pressure

groups can then influence the decision making of those with authority by creating a climate permeated with different ideas, and using the tools at their disposal to achieve their objectives (Scott, 2001).

5) **Conflict:** Social or group conflict occurs when groups "engage in a struggle over values or claims to status, power, and scarce resources, in which the aims of the conflict groups are not only to gain the desired values, but also to neutralize, injure, or eliminate rivals" (Coser, 1956). Oberschall (1978) presents three overarching concepts in the study of conflict – the structural sources of the conflict (values or resources), group formation as a result of conflict (competing institutions), and the dynamics of the conflict (scope, duration, regulation, outcomes). A milder form of conflict could be considered distrust or suspicion, which does not involve overtly facilitating a negative impact on another organization, but does involve increased suspicion in a relationship, which is heightened in cases of power asymmetry (Farrell, 2004).

Analytic Approach

For the broader analysis, I utilized a version of the 'framework' method, a common analytic approach in policy research (Gale, 2013, Pope, 2000). The coding approach combined inductive and deductive approaches (Gale, 2013). I first developed a set of codes based on the conceptual framework, and then built on this list by reviewing memos generated from the 87 in-depth interviews, six observations and select documents to

prepare an initial list of codes. I then conducted line-by-line coding on six transcripts, from which I further inductively generated codes (Charmaz, 2006). I then applied the new codebook to an additional seven transcripts, and based on this process, condensed the codes into a final list in consultation with my primary advisor. I then applied this final codebook to an additional 33 transcripts that were selected for in-depth coding due to the richness of the data presented in those interviews.

My next step was to develop detailed case studies of the agenda setting and formulation and implementation stages of the case, using coded data and select documents. I began by closely reviewing the coded data and developing themes pertaining to each of the cases. I then wrote up these emerging themes in the form of the case studies. These themes were entered into a role-ordered matrix (Miles, 2014). The remaining 41 interviews, relevant documents identified from the case study database, and observation data were reviewed to confirm or disconfirm themes, and present new information wherever possible. I then engaged in respondent validation with three key informants by discussing key findings and incorporating their feedback into the analysis (Gilson et al., 2011b).

I then turned to the power analysis, and began exploring frameworks and social science theory pertaining to power in an effort to determine whether an existing theory could be deductively applied to my data (Gaventa, 2005, Erasmus and Gilson, 2008). After determining that existing frameworks did not appropriately fit the themes of this case, and following a discussion with my primary advisor, I decided to inductively develop a framework that would facilitate a deeper analysis of observed dimensions of power. To

develop this framework, I drew upon multi-disciplinary concepts of power that related to both the sources of power, and the application of power. I then applied and iteratively refined this conceptual framework back to the full set of interviews, exploring these concepts by linking them to existing codes (as described in Table 19) (Dalglish et al., 2015). In some cases, analyzing the data by the conceptual framework required reverting to the original transcripts, a process aided by my in-depth analysis of the data in previous chapters, and the availability of detailed memos. I also drew upon selected documents and observations to triangulate my findings.

Table 19: Application of conceptual framework to data

Power category	Concept	Examples of codes
Sources of power	Technical expertise	Power in technical expertise
		International actors
		Indian actors (AIIMS, Apollo, etc.)
	Financial power	Resource power
		Indian actors (Apollo, private hospitals, SEMI, etc.)
	Bureaucratic power	Resource power
		AIIMS
		MoHFW
		Public medical colleges
		State governments
	Network power	Alliances and networks
Applications of power	Domination	MCI
		MoHFW
		Accountability
	Facilitative power	SEMI, INDUS-EM
		Issues with unrecognized courses
	Socialization and legitimation	International actors
		Appropriateness of EM to Indian context
		EM in other countries
	Pressure	Advocacy efforts
	Conflict	Conflict between actors
		Personal rivalries
		Actor ideologies
		Internal dissent

Results

Sources of power: In this section, I will highlight key aspects of each of the sources of power observed in this case (Table 20).

Table 20: Sources of power in the development of EM in India

Source of power	Actors	Description
Technical expertise	AIIMS, CMC Vellore, EM stakeholders from high-income countries	▪ The role of international EM stakeholders in building credibility for the field ▪ Importance given to AIIMS, PGI Chandigarh for technical expertise ▪ Belief in MCI's technical expertise from other government actors
Bureaucratic power	MCI, NBE, AIIMS, MoHFW, State Governments, medical colleges	▪ Increasing bureaucratic power of MCI ▪ Personalized leadership of medical college leadership
Financial power	For-profit private health providers (Apollo Hospitals, Fortis Hospitals, Max Hospitals) MCI	▪ Private sector hospitals able to promote EM assertively utilizing their resources ▪ Acquisition of financial autonomy by MCI through inspection fees
Network power	SEMI, INDUS, Academy of Traumatology, medical institutions offering postgraduate education	▪ Networks facilitated increased access to policymakers ▪ Networks enable transmission of ideas (within India, and from HICs to India

Technical expertise: The role of technical expertise as a source of power for stakeholders permeated the case. International stakeholders in particular derived considerable power from their advantageous position of transferring knowledge, particularly in the 1990s and early 2000s when EM was first developing in India. Indian stakeholders reported gaining considerable knowledge, skills and expertise from these actors [A3, A4, A54, A23, A24, A28, AA124, A39, A93, A92]. Further, Indians who trained or worked abroad described acquiring knowledge and experience pertaining to EM in HICs that they then transmitted

to their home institutions in India. Supplementing the perception of Indian stakeholders that international stakeholders held relatively greater expertise in this discipline was the sense from international stakeholders themselves that they possessed a body of knowledge reflecting 'true' principles of EM [A18, A22, A29, A47].

"I think people, any country respects the foreign people more than what your local talent is. " Private sector stakeholder

Beyond international stakeholders, certain actors within India were considered to hold considerable technical expertise. For example, AIIMS, PGI Chandigarh and CMC Vellore were considered by many to set the standards for other institutions in the country [A4, A5, A12, A19, A21, A28, A68]. Furthermore, the predominance of the All-India Institute of Medical Sciences (AIIMS) as the leading public sector medical college gave it considerable weight with policymakers [A4, A5, A19, A21, A38, A46]. An implication of AIIMS's importance in the public sector was their role as inspectors and technical experts in the MCI system, giving them insight into its bureaucratic system and policymaking process [A5, A19, A28, A35, A56]. In the private sector, institutions such as Apollo, in addition to having considerable financial resources, had built strong technical expertise in various specialties [A24, A93]. Finally, one government actor noted that in the eyes of the MoHFW, MCI was considered to have adequate technical expertise to make appropriate decisions [A111], and according to one former central government official, rarely challenged MCI on particular decisions.

"And, the ministry as such is unable to…I maybe not right…of ever questioning the MCI and say why do you have this standard unless somebody has pointed it out, unless [X medical college] or someone comes in and says it is a ridiculous standard that the MCI has put and then they will put it for comments. But more or less MCI will come back with some huge argument saying why it is absolutely essential and Ministry will go along with them because the MCI is their regulator. So a regulator versus a individual petitioner there is a tendency to agree to some extent of what MCI says unless there is very solid and prior knowledge of…with the Ministry and Ministry decidedly not going to agree, and then their setup is not approve. Otherwise…on very highly technical things they won't argue with them too much." Former central government official

Bureaucratic power: For much of the post-Independence period, the Ministry of Health and Family Welfare and MCI had been in a tussle over oversight of medial education (Jeffrey, 1988). Much of this early tension appears to have originated post-independence in the 1950s over the need to increase the numbers of doctors in the country by expanding the number of medical colleges, including through privatization (Jeffrey, 1988, Mudaliar Committee, 1962, Chaudhury, 2007). MoHFW and the Central Government appear to have been primarily concerned with expansion, often overruling MCI's concerns about the quality of the colleges and the lack of teachers (Jeffrey, 1988, Jeffrey, 1977, Maru, 1985).

The power equations began to change in the 1990s, when the Indian Medical Council Act was amended to include Section 10A in 1994 giving MCI and MoHFW more direct

oversight over public and private medical colleges in order to stop the unstructured growth of medical colleges, and to enable standardization of courses [A34, A77, A83, A85, A106]. In the view of some respondents, at this time, MCI began acquiring further power to regulate medical education over and above MoHFW [A84, A85, A106]. Such power, bolstered through political and network-driven power, facilitated the evolution of MCI as an insular, and largely unaccountable institution in the eyes of many in the medical profession [A2, A3, A12, A48, A84]. This growing lack of oversight, coupled with the 'cementing' of MCI's power to regulate through the Indian Medical Council Act, gave the institution considerable space for rule-making (Goverment of India, 1956). As allegations of corruption against the long-time President, Ketan Desai, became louder during the 1990s, MCI came under considerable scrutiny from the Supreme Court, and on occasion from the Executive (Rajalakshmi, 2001). However, MCI leadership appeared able to outmaneuver these calls for reform, including during a recent attempt from 2010 to 2013 (Parliament of India, 2016). Furthermore, the organization continued to curiously operate both as a participant in and defender against corruption. In describing a rule banning the acceptance of gifts and hospitality by doctors from pharmaceutical companies, a respondent observed the following dichotomy:

"So this is interesting that here is this guy who is known for being absolutely corrupt but who is talking about having an air tight kind of law in place and things like that. But later you came to know that even while this was going on there were also things like giving permissions to medical colleges for increasing the number of seats for which apparently they were making money and so on." Media representative

Bureaucratic power also emerged in the ability for MCI to behave in opaque and secretive ways. As described in the Agenda Setting chapter, respondents described a laborious, and often frustrating, nine-year period of advocacy for official recognition of EM by MCI. EM stakeholders met with MCI leadership and administrative staff in individual and organizational capacities, but were repeatedly given vague or sometimes conflicting answers regarding the institution's plans [A23, A25, A28, A29, A35]. EM stakeholders were often given the impression that some within MCI were not particularly interested in this issue, nor were they willing to prioritize it [A18, A23, A25]. Internally, MCI stakeholders were reportedly divided on the question of whether existing systems of emergency care were sufficient, or whether India needed to adopt standards of care from HICs, specifically, the specialization of EM [A32, A35, A51, A71, A92].

"It is a funny thing actually, even if you convince the Chairman, still it will take a while for it to happen because there's lot of bureaucracy which is involved with the MCI. And MCI's basic job profile is not to get new specialty. It is just to do with the existing specialties, medical education across the country. So this was not a priority area for them." Private sector hospital stakeholder

Importantly, stakeholders felt that reasons for MCI's decisions were rarely given, and there was broadly a sense of unpredictability and uncertainty regarding how MCI would act at any given moment [A18, A23, A41]. For example, EM had been a recognized specialty by MCI prior to 2000, but despite growing interest from the medical profession

in the field, the field was dropped from the list of approved specialties (The Hindu, 2000). MCI and government stakeholders themselves spoke of the ad-hoc decision-making that would take place around developing specialties [A32, A51, A84, A85, A106]. For example, one former MCI respondent noted that decisions would often be taken according to the 'whims and fancies' of the committee members [A51].

Bureaucratic power also emerged in the cases of leadership in various aspects of the medical education system, from MCI leadership to medical college Deans [A4, A53, A92, A93, A119, A123]. For example, a former Dean of a private medical college said that he was given considerable freedom in starting Emergency Medicine in the college.

"It was fortunately for me, the management just allowed me to do, what I want. Never asked a question. Never." Private medical college

Medical college leadership had considerable authority to direct the course of events, regardless of the involvement and opinions of other officials within the institution. In one instance, a medical college leader initiated an EM course and only later involved the person who had been tapped to lead the new EM Department; the few respondents familiar with this college who were interviewed noted substantive internal differences of opinion regarding the scope and approach of EM at the institution.

"But then director that time, he felt that we got emergency medicine and he put through, and course was created and then I was brought into the picture after everything was over." Public medical college

Financial power: Financial power was most notably present in the cases of corporate hospitals such as Apollo and Fortis, as these institutions were able to utilize their resources to aggressively promote and advance EM in their institutions. Financial power also appears to have facilitated closer relationships with international actors, as for-profit hospitals were more easily able to fund travel and establish training courses, and also hire professionals from the Indian diaspora to run their programs [A17, A24, A42, A93]. Some respondents described a key motivating factor behind corporate interest as being 'brand building' or marketing the advanced level of care in their facilities for the purposes of revenue generation (Healthcare Executive, 2014) [A3, A53, A56, A93].

MCI has exhibited growing financial power through its ability to levy inspection fees on medical colleges [A34]. The ability for MCI to self-finance was not always the case; in 1946, A.H. Butt, the then-Secretary of MCI wrote in the British Medical Journal that, "Even for finances it [MCI] has to depend solely on the Central Government" (Butt, 1946). Several decades later, the situated seemed to have reversed. In 2005, the Estimates Committee of the Lok Sabha, Parliament of India, noted that as per disclosure by MCI, 93% of the institution's budget came from internal revenue, such as inspection fees, registration fees, and certification charges (Lok Sabha, 2005). This financial autonomy has meant that it was not reliant on MoHFW or other government agencies for its

functioning (Parliament of India, 2016). Furthermore, MCI has been accused of seeking informal payments in exchange for permissions and recognitions, as noted by some respondents [A9, A18, A25, A34, A59]. In describing MCI's resistance to establishing colleges for individual specialties in India, a respondent from family medicine noted the following:

"And the reason I suspect MCI doesn't want to do it because they'll lose power, they'll lose control, and it's a known fact that there is money involved there is lot of corruption because when they go for inspection, there are lot of transactions which happen in most of the colleges." Private medical college stakeholder_A9

Network power: Network power was a critical source of power for stakeholders in this case, particularly in instances of pursuing policy objectives. Networks involving medical colleges, elite institutions, and geographic proximity (professionals working in the same city), greatly facilitated access to policymakers [A2, A18, A19, A25, A28, A29, A42, A45, A92]. Stakeholders from palliative care and family medicine similarly confirmed the importance of networks in accessing policymakers [A8, A9, A13]. For example, several respondents spoke of utilizing institutional networks to secure coveted spots on policymaking advisory committees [A4, A19, A28, A35]. Networks also enabled the sharing of technical resources that were important for the growth of training programs. For example, Indian stakeholders drew deeply from professional networks in India and abroad to access guidance on the functioning of EM departments, curricula and other resources [A3, A19, A39, A54].

"I got one curriculum from a [U.S. medical college] because one of our faculty knew somebody there who had sent it to someone else and it was a big whole bundle, the whole bundle of their MD emergency medicine….similarly I got one from the UK because when UK started an A&E program, they also had a curriculum. This also another consultant gave it to me. So I put these two together." Private medical college stakeholder_A54

One such example was in the case of Gujarat, where diaspora played an active role in promoting and developing EM in the state [A92, A93]. The Academy of Traumatology closely involved U.S.-based Gujarati diaspora and the American Association for Physicians of Indian Origin in their efforts on pre-hospital care, short courses on trauma management and establishing EM in public medical colleges. One respondent also noted that members of the diaspora contributed financial resources to strengthen these efforts [A93]. Some respondents also discussed the relatively cohesive nature of the partnerships in Gujarat [A18, A92, A93].

Applications of Power: Utilizing these sources of power, I found that stakeholders in this case applied their power in several ways. Table 21 provides a summary of these examples.

Table 21: Applications of power by actors in the development of EM in India

Concept	Actors	Examples	
Domination	MCI	Opaque, non-consultative policy formulation process by MCI	Series of de-recognitions of EM courses in medical colleges by MCI in from mid-2014 onwards
Facilitative power	Professional associations, international stakeholders, medical colleges, private hospitals	Formation of professional societies	Development of training programs in both public and private sectors
Socialization and legitimation	Indian and international stakeholders	Rapid uptake of EM as conceptualized in HICs amongst Indian stakeholders	Active promotion of the field by international stakeholders in India
Pressure	Professional associations	Application of pressure on MCI by organizations and individuals for EM recognition	Application of pressure on MCI for retrospective recognition of pre-2009 MD degrees, and recognition of private training programs,
Conflict	Professional associations, international stakeholders	Conflict within and between professional associations	Conflict and distrust between international stakeholders and national stakeholders

***Domination*:** The actions of MCI in relation to the medical colleges and EM stakeholders in this case, signals their ability to utilize their bureaucratic power to dictate the course of events, often against the will of stakeholders in the case. I found two key examples of domination in this case.

The process to formulate policies within MCI to operationalize training programs in EM was largely insular, and except for the curriculum, did not involve EM specialists. This type of formulation led to major difficulties in interpreting the specific intention and

meaning to the policies issued around faculty criteria and departmental requirements [A3, A29, A48, A54]. By limiting the inputs of key stakeholders involved in the specialty regarding these issues, and then forcing medical colleges to abide by those principles, MCI appears to have dominated the formulation and implementation of policy meant to guide the development of these courses. Furthermore, there were few, if any, channels to communicate directly with MCI regarding the interpretations of course guidelines – all communication appeared to follow the more traditional approach of writing letters directly to the committee, a reportedly frustrating and lengthy process [A8, A28, A29, A42, A54, A93]. Other respondents noted that obtaining formal replies from MCI regarding certain topics meant resorting to Right to Information Act mechanisms [A9, A13, A42]. One respondent noted the following response when requesting a definition of Family Medicine:

"One very strange reply from Medical Council was that we do not have any definition of family medicine." Public sector hospital_A8

The Formulation and Implementation Chapter described the series of de-recognitions and lack of permissions that created an environment of fear and confusion amongst EM stakeholders. These de-recognitions appear to be the most serious form of domination by MCI, given their ability to force medical colleges to undergo extensive compliance processes, such as re-inspections. EM stakeholders grappled extensively with what was in their view unclear and unfair expectations for passing inspections for their programs [A3,

A5, A29, A54]. EM stakeholders also described a looming sense that EM programs within the MCI system were going to fade out [A3, A4, A5, A54].

"I mean it is getting worse and worse because there are so many colleges and everybody have been rejected, they are not allowing them to start courses because nobody has an idea on what the MCI is actually looking for." Private sector medical college stakeholder_A54

Facilitative Power: The chapter on regulatory architecture demonstrates that in the space of medical specialization, professional societies and the broader community of stakeholders interested in a specialty appear have an important self-regulatory role. The case of EM highlights that EM stakeholders utilized facilitative power to organize Indian and international stakeholders around collective interests. In the case of SEMI, Apollo was able to utilize its network power to broaden the scope of EM to various parts of the country, and used its financial power to provide stability to the organization. INDUS-EM was able to utilize the bureaucratic power of AIIMS to facilitate access to MCI and other policymakers in order to meet policy objective. Beyond the two societies, several other organizations were formed to promote the case of EM, such as the Academy of Traumatology in Gujarat and the Federation of Emergency Physicians India, and each utilized their sources of power to achieve collective goals [A23, A41, A54, A80, A92, A93].

The development of training courses, both in medical colleges and in private sector hospitals, also involved the application of facilitative power. In several medical colleges, collaborative training programs were initiated between international stakeholders and local partners, and these programs placed a strong emphasis on the role of international stakeholders in providing technical expertise [A3, A4, A17, A18, A25, A47, A62, A91]. The two examples that perhaps loom the largest are the Apollo partnership with the Royal College of Emergency Physicians, and the MEM courses with GW. Finally, there were numerous examples of Indian institutions drawing upon networks of EM stakeholders from within India and abroad, often building upon the professional affiliations of Indians from their work experience abroad, to develop curricula and other facets of training programs in EM [A3, A48, A54, A91, A92].

"So when this process got delayed but the demand had started increasing and lot of more and more young people were entering so that's the time we thought that foreign collaboration is necessary to help this capacity building." Private hospital

The utilization of facilitative power in the development of both professional associations and training courses appears to have focused on particular types of stakeholders, and perhaps excluded others – for example, doctors currently engaged in the bulk of emergency care work (Casualty Medical Officers, Medical Officers engaged in rural service, etc.). Furthermore, these groups might not have actively engaged potential stakeholders, such as other specialists who might be potentially involved in starting new

EM Departments. For example, a non-EM trained specialist leading an EM Department in a public medical college stated the following:

"So to my knowledge, I maybe wrong, there is nothing like a Indian Association of Emergency Medicine. It's still a fledging specialty, it's still coming up. And, there are lots of different courses and all that, there is no uniformity of curriculum, so there are issues." Public sector medical college

Socialization and Legitimation: The role of socialization and legitimation were noticeable in the narratives described by respondents in this case.

The pervasiveness and institutionalization of EM in many HICs gave the concept considerable traction with Indian stakeholders. Indian professionals who first became familiar with EM during their training in HICs were in this way socialized to the concept, and strongly believed that the specialty could positively impact the delivery of emergency care in India [A24, A29, A40, A39, A46, A91, A92, A93]. MCI and EM stakeholders stressed that a key parameter for introducing EM, and broadly several new medical specialties, is the presence of that particular field abroad, signaling a desire to keep pace with other countries [A12, A28, A71, A77].

"Also, many countries were getting Emergency Medicine. There was an international effect. If Singapore was having Emergency Medicine, why not India too?" Public sector medical college

"I think basically it is, because rest is doing it, we are doing it." Public sector medical college

Adding further legitimacy and credibility towards the idea of EM as an appropriate intervention for India was the active promotion of the field by international actors in India. International actors organized their efforts through professional societies, such as AAEMI and INDUS-EM, and frequently visited India for conferences and training programs, and in the process, attempted to meet with policymakers to promote need for EM [A17, A18, A22, A23, A25, A35, A107].

"Just trying to keep pace with other developed countries that have the specialty recognized will also be important. If you've got international organizations they are saying, hey we have got this and you as the country trying to keep pace with them in terms of the medicine and medical care provided, I think that would be important as well." International actor

A few respondents also specifically commented on their interest in seeing EM in India take on a similar trajectory to that of the United States and similar settings, including through the development of residency-based training programs [A5, A19, A66, A88].

"So our goal was to encourage them to make it became an identified specialty to start specific residency programs in emergency medicine and to help pass on any lessons we

have learnt over that 35 years of developing it in the United States." International stakeholder

Members of the Indian diaspora played a critical role in promoting EM in India, serving as a bridge between their adopted countries and their country of origin (or due to their ancestral and family ties to India) [A3, A18, A22].

"So these non resident Indians they used to come and they used to tell that if it is happening in the country which have I worked why cannot it happen to my own home country. They play a big role into this. So they used to take people abroad, give them, show them the system, organize the annual conferences come in between and lot of handholding they did. And they got lot of Americans and British into this." Private sector stakeholder

The reasons for diasporic engagement largely focused on wanting to promote advancements in health care in India, largely due to 'vested interests', 'feeling', or loyalty to the country. [A3, A4, A17, A18, A21, A22, A25, A26]. Some respondents from the Indian diaspora felt that they were in a unique position to promote the field as they could align their familiarity with India with their training and experience abroad.

"I don't talk like, the American system is the best, you to do this the US way, otherwise it's not good. I know what is practicable in India, I tell them look, this is how we do in

US, this is how it was done in England and this is how we used to do in India. We can modify it and combine it to a way it will work in India…" International stakeholder

Pressure: Building on the formation of professional societies through facilitative power, stakeholders then organized to apply pressure on regulatory institutions through a number of channels. The clearest example of this pressure was that of seeking EM recognition from MCI. Stakeholders in an individual and organizational capacity repeatedly applied pressure on MCI through in-person meetings, formal written communication, and invitations to participate in conferences. In this case, pressure did not have to be coordinated to be successful; as noted in the Agenda Setting chapter, the diversity of voices calling for the recognition of EM might have in fact facilitated the delivery of messages within the tangled governance structure and bureaucracy of MCI. Furthermore, networks played a significant role in facilitating access to high-level leadership of MCI, particularly those networks forged through medical college, and also the close ties between MCI and AIIMS [A28, A33, A35].

Some respondents discussed the need to use the court system as a way to apply pressure on MCI; for example, EM stakeholders seeking recognition of their MD degrees from non-recognized medical colleges filed a case with the Madras High Court seeking retrospective recognition [A44, A46]. Similarly, a stakeholder from Palliative Medicine described needing to file a lawsuit against MCI to obtain responses regarding the institution's strategy pertaining to the field [A8].

Conflict: Conflict has in some ways marked every aspect of the development of EM in India, starting with conflict within and between the professional societies, to conflict between national and international stakeholders, to a general mistrust of MCI by EM stakeholders.

Conflict forged deep divisions within the stakeholder network, particularly within and between professional societies. The most significant of these instances is that of the divide between SEMI and INDUS, seemingly motivated by disagreements over ideology and strategy, particularly around the propagation of academic emergency medicine [A4, A5, A19, A24, A42, A47, A88, A112, Documents]. One view was that EM should develop primarily within regulated systems such as MCI and the Institutes of National Importance (AIIMS, PGI and JIPMER), while the other view was that given the scarcity of human resources, and the slowness of the regulators in formal recognition, any type of training should help fill this demand [A22, A23, A62]. The organizations also appear to have fractured on loose sectoral and regional lines, with SEMI perceived to be more focused on the private sector and South India, and INDUS-EM focused more on the public sector, medical colleges and regions beyond South India (although such perceptions were actively contested within the network) [A24, A45, A56, A112]. Beyond the source of the disagreements, the conflict between the associations resulted in duplications of policy objectives, such as advocacy for a national emergency care law, short-course training programs, and competition to become the main technical partner for the National Board of Examinations' EM courses.

Conflict also emerged within SEMI in two primary ways – one, due to the role of international actors, and two, between the first generation of EM stakeholders, who were trained in other specialties, and the newer generations of stakeholders who had exclusive training in EM. These conflicts negatively impacted the governance and leadership of SEMI, leading many individuals to limit their active involvement, and weakening the effectiveness of the organization in meeting its objectives [A2, A3, A18, A124].

Conflict also emerged between Indian and international stakeholders, signaling a deep ideological divide regarding the role of international stakeholders in legitimizing EM in India.

"There are two schools of thought in India. One school thought says that India is for Indians alright, and if you bring a program to India from another country, it will never work in India, it has to address the needs of Indians. There is another school of thought that says that the mecca, the best quality of emergency care is in the USA and if the USA says it must be right, how can they be wrong." International stakeholder

Despite the largely unanimous perspective that international stakeholders played a critical role in shaping the early stages of EM in India, their role and presence caused deep divisions within the Indian stakeholder group. Many respondents likened the relationship between international and national stakeholders to that of a parent and a child, one of both dependency and resistance.

"…I retrospectively see that is natural. Why would you go as an international organization into another country? And start calling the shots. Till those people grow… when your child has grown they want to move out of the house and if you see, that is a very natural phenomenon happening. So, the international support came and did a lot of good. They organized them, got them to a level and then they were not liked because their own show was being stolen." International stakeholder

National stakeholders noted that they felt that a trend of 'Americanization' was occurring within Indian EM, one that was not reflective to the local context. Conversely, international stakeholders felt that national stakeholders needed their expertise, particularly around training programs and conference preparation, but often demonstrated a desire to stand independently. A few respondents also commented upon the underlying power differentials between international stakeholders of Indian origin, and those of non-Indian origin, noting that some non-Indian stakeholders were given priority in national meetings during the early period of the specialty [A22, A29].

"So there are many who resented the so called Americanization of emergency medicine for India and the Americans coming in to organize a program in India. Of course the bulk of Americans coming in were those of Indian origin but there were some who were not of Indian origin, of US origin who were doing it and they were given the prominence in many of these meetings. So you see, resentment was developing and so politics ruled SEMI for quite a few years. It was sad because that has slowed down the development of emergency medicine in India…" International stakeholder

Respondents commented on seemingly conflicting concepts of altruism and self-interest guiding international stakeholders. International stakeholders often spoke of their involvement in altruistic terms, a sentiment echoed by some Indian stakeholders. That said, several Indian stakeholders, and some international stakeholders, appeared to question this sense of altruism, and felt that self-interest was driving the involvement of some of these professionals, such as seeking reputational or financial gain through training programs [A4, A5, A17, A19, A21].

"…this is what I take pride also in this, we are so proud of them the US counterparts, that they give selfless service. That is what I say, true selfless service. You know without asking anything. So, that is what and main thing is, they invested their time and resources in the things that has happened in India." Public sector medical college stakeholder

"People come from outside, run their own systems. There are many universities in America and even the Royal College come to India and they run their own sweatshops in various specialties, they award their own degrees. I have never seen an Indian University coming to America or UK and giving degrees to its citizens. But because our country's system is so open and broad these guys can venture out into Indian soil and start distributing the diploma so that is colonization of academics according to me and it is going on very actively in India right now." International stakeholder

The conflict between national and international stakeholders played out in an intentionally reduced role for international stakeholders at some EM conferences, such as SEMI's annual conference in 2015 [Observation data, A4, A66]. Another consequence of the divide between the professional societies was that Indian stakeholders were then in some ways 'blocked' from engaging with international organizations that seemed to affiliate with the competing national group. For example, stakeholders from INDUS were less likely to participate in meetings or discussions with the International Federation of Emergency Medicine, or the American College of Emergency Physicians. Similarly, stakeholders from SEMI have not been engaged in discussions with INDUS partners such as CDC and WHO around strengthening emergency care within the country.

Discussion

This analysis of the development of EM through the lens of power reveals the underlying dynamics that have fundamentally shaped the growth of the field. Before discussing key findings, it is important to acknowledge the limitations of this analysis. First, some respondents were cautious in speaking about MCI, preferring to go off the record for those discussions; data from those portions of the interviews are therefore not captured verbatim and therefore the analysis must not reflect certain nuances. To address this, I took extensive notes during the interviews and included these points in my analysis. Second, I was unable to interview certain key stakeholders from MCI who were closely involved in decision making around EM, thereby presenting a limitation to my sampling (Gilson et al., 2011b). I tried to address these issues by using data from other sources,

such as observation and document review. Finally, due to the sensitive nature of questions around power, I was often unable to explicitly engage in dialogue around power with our respondents, and therefore, the analysis relied almost exclusively on my interpretation of the data, and therefore could potentially reflect my biases. I attempted to address through member checking by discussing certain findings with key respondents, and peer debriefing, by frequently discussing and sharing my analysis with advisors.

In this chapter, my objective was to answer the question of whether power analyses shed light on the outcomes observed in the development of emergency medicine in India. First, I will discuss the application of the framework used in this analysis, and then I will discuss key findings in the context of the literature.

Power is increasingly being recognized as a critical aspect of health systems and policy research; yet, the concept remains difficult and complex to research (Erasmus and Gilson, 2008, Sheikh et al., 2014, Marten et al., 2014). The diversity of theories and frameworks regarding power, while overwhelming, presents an exciting opportunity to develop theoretical frameworks emerging from empirically-driven insights (Dalglish et al., 2015). The framework used in this analysis drew upon concepts from the social sciences, including political science and sociology, and also other inter-disciplinary fields such as education. The framework was particularly useful in looking at the data in a new light. For example, exploring the role of the diaspora in the form of legitimation helps us understand the more hidden layers of their engagement driven by the power derived from technical expertise and networks. Similarly, theory on bureaucratic power suggests that

secrecy is a key facet of that power, and helps explain the opaque nature of policymaking at MCI. In doing so, our analysis and understanding of the issues becomes sharper, and provides considerable space for reflection (Charmaz, 2006).

The power analysis applied to this case of EM in India suggest that the diverse ways in which power was derived and applied significantly shaped the actions and interactions of stakeholders, and therefore, the outcomes of the case. A key takeaway in our case is that the diversity of sources of power can help explain its broader reach as a new medical specialty, especially when compared with other emerging fields such as palliative medicine and infectious diseases. EM stakeholders appeared to successfully utilize their respective sources of power – technical, bureaucratic, financial and network – to apply pressure, for example in the instances of seeking formal recognition for the field from MCI, and later, NBE. Network power, derived from homophily (medical college networks) and affiliation networks (relationships between AIIMS and MCI), appeared particularly effective in advocacy efforts. Financial power, specifically in the case of Apollo Hospitals, was also significant in facilitating the growth and expansion of EM as its own discipline. International actors, particularly the Indian diaspora, effectively applied the power derived from their role as technical experts for collaborative purposes, such as the formation of professional societies, lending of expertise for conferences and training programs, and giving credibility and legitimacy to advocacy within the country. Further, these actors formed transnational networks, contributing to the growing phenomena of diaspora-led networks bridging high- and low-income settings (Agarwala,

2015, Singh, 2012). They myriad sources of power in this case therefore help explain the relative successes of EM in the past decade.

However, the purported 'promise' of EM had to contend with the tangled governance structure of postgraduate medical education and specialization in India, and in particular, MCI. The role of MCI in this case deserves particular attention. The increasing bureaucratic power acquired by MCI emerged initially out of their presumed technical expertise in the area of medicine, and over the years, was shielded from scrutiny by financial, network and political power. MCI was then able to apply the power derived from these sources to cast a dominating shadow over the development of EM in India. Other commentaries, and most specifically, the report on the functioning of MCI released by the Parliamentary Sub-Committee on Health and Family Welfare, have similarly reported on the environment of fear, opacity and unaccountability (Parliament of India, 2016, Baru, 2015, Thomas, 2010). Our study provides further empirical evidence by describing the negative implications of MCI's unchecked bureaucratic power on the ability of EM stakeholders to effectively intervene in improving emergency care in the country. At each point in the system, from the efforts to garner political priority, to the implementation of MD courses, EM stakeholders appeared to be met with resistance that appears to weld personal opinion of MCI leadership with the force of the institution's bureaucratic power.

The repressive role of the Indian bureaucracy in its relationship to citizens is a well-accepted fact (Jain, 1987, Kothari, 2011). In his important work on the culture of state

bureaucracy in India, Gupta (2012) posited three ways in which structural violence is perpetrated against the poor – corruption, inscription, and governmentality. In a similar vein, MCI used the tools of its bureaucracy to perpetuate a system in which new specialties such as EM were not given room to mature and thrive. This chapter, and the findings of the regulatory architecture chapter, suggest a system in which accountability mechanisms – the oversight of MoHFW, communication with medical colleges and the medical profession, and at times, the involvement of the Supreme Court and the Executive – appear to have failed. However, given the intense scrutiny facing MCI from the Supreme Court, Parliament, and the NITI Aayog, there is a possibility that renewed efforts at reform might have more traction. The recent proposal to replace MCI with a National Medical Commission could be an important step in reforming the system in order to better meet the objective of equity-oriented regulation within the health sector (ENS Economic Bureau, 2016, Parliament of India, 2016, Outlook, 2016).

This case also highlights the diverse ways in which power was applied by stakeholders, in ways that both facilitated and hampered the development of EM in India. The formation of professional associations appears to be a key outcome of the utilization of each of the sources of power in this case. Stakeholders also used their facilitative power to develop training programs in EM in public and privates sectors, arguably helping fill the human resource gap for emergency care in India in the process. However, these professional societies have also used their power in the context of their conflict in the case of duplicating policy objectives and stifling mutual growth. This conflict has certainly had a detrimental effect on growth of the field, particularly in sharpening the

divide between public and private interests, an already intractable issue within the Indian health sector (Patel, 2015). Furthermore, transnational forms of power, such as socialization and legitimation, also appear to underlie much of the tension in this case, warranting further reflection on how international stakeholders in these networks use their power. Several studies on the engagement of international stakeholders in development agendas within LMICs similarly suggest deep power asymmetries with national stakeholders, and a few also suggest a tenuous line between altruism and self-interest in the motivations of international stakeholders (Walt et al., 1999, McGoey, 2015, Mosse, 2005). In this case, these asymmetries further manifested in the exportation of 'valuable' knowledge by international stakeholders, perhaps without adequate and widespread interrogation regarding the suitability of this knowledge. Regarding a 1985 initiative by the Medical Council of India and the American Association of Physicians of Indian Origin to train doctors in India on advancements in medical technology, the Economic and Political Weekly presciently warned in 1985, that the initiative "will promote and encourage a value system in which the 'best' medicine becomes synonymous with high- tech medicine" (Economic and Political Weekly, 1985a). These concerns seem relevant three decades later, even more so given the increasing globalization of biomedicine. As noted by Zachariah (2014), "the unreflective transfer of knowledge developed in a Western population and for the Western health system to the Indian setting has led to a mismatch between the structure of the health problem and the knowledge that is being used to address it." The role of the Indian diaspora as brokering this knowledge transfer also warrants further attention, particularly since our case

demonstrated the potential for such efforts to on occasion receive backlash from their India-based counterparts.

Power analyses are important in understanding the actions of stakeholders involved in shaping the case; it is equally important for highlighting those actors who were *not* involved, but should have been. These findings suggest that the development of EM in India remained primarily an elite exercise, with activities concentrated in metropolitan areas, and amongst specialist medical professionals and other stakeholders seeking to promote or benefit from EM. Noticeably missing from these efforts were those stakeholders engaged at the frontlines of emergency care in India, such as medical officers in rural areas and Casualty Medical Officers. The overrepresentation of elites in such organizations is a well-understood sociological fact (Wright Mills, 1956); however, their overrepresentation does mean that critical viewpoints are missing from the broader discussion of specialization in India. The associations in this case have made an effort to engage some of these stakeholders, for example by hosting national conferences in different cities and towns across the country and offering short-term training courses for public and private sector practitioners. However, the noticeable absence of these frontline stakeholders in developing policy and strategy, for example, curricula and infrastructural requirements, reflects a deeper challenge of inclusiveness in medical education in India (Sood, 2012). Expanding the reach of medical specialties beyond cities and the private sector will therefore require more intensive efforts in engaging stakeholders outside these more elite settings.

Conclusion

To conclude, I posit that this power analysis sharpens our understanding of the successes and challenges observed in the development of EM in India. The utilization of the four sources of power identified – technical expertise, bureaucratic power, network power and financial power – allowed stakeholders to expand the reach of the specialty to public and private sectors, a trajectory not experienced by other emerging specialties such as family medicine, palliative medicine and infectious diseases. Further, the diversity of sources of power enabled the stakeholder network to aggressively and independently pursue recognition with MCI. However, during the nine-year period of impasse between MCI and emergency medicine stakeholders applied their power inconsistently and at cross-purposes, creating a divided stakeholder network and contentious policy landscape. Going forward, this analysis suggests that stakeholders seeking to establish new specialties in India could consider key lessons from this case. For example, the diversity in sources of power found in this stakeholder network could actually be harnessed to grow the field; for example, the bureaucratic power of AIIMS and the financial power of Apollo could have a complementary, rather than competitive, dynamic. Combining the power of these groups is certainly possible; other specialist stakeholder networks in India appear to have found constructive ways to bridge their differences, for example, in the case of pediatrics (Udani, 1988). International stakeholders promoting new medical specialties would be well served by utilizing their technical expertise in a more cautious and transparent manner, particularly in scenarios that could serve their financial or reputational interests. Members of the Indian diaspora might also consider a repositioning

of their role, utilizing their deep ties and familiarity with India in a more considered manner in order to avoid some of the backlash observed in this case (Agarwala, 2015).

Chapter 6: Conclusions, Policy Implications and Future Research

In this dissertation, I have sought to describe the evolution of emergency medicine as an academic specialty in India, and by doing so, aimed to shed light on the actors, ideas, processes, and contextual factors involved in the development of medical specialties more broadly in India. Broadly, my research finds complex forces shaping medical specialization in India, driven by factors underpinning the globalization and dominance of biomedicine – socialization, legitimation, and privatization of the health sector. Stakeholders in India, particularly professional associations, actively promoted the specialty of EM, but despite their convergence on the need for specialty recognition and postgraduate medical education, did not coalesce around a broader policy agenda, constraining their ability to engage with questions of equity and health systems. Furthermore, their efforts to generate specialists through medical colleges were resisted by the arcane and fragmented regulatory environment of medical education in the country, resulting in diminishing avenues for specialization in the MCI system, and expanding opportunities in the private sector. I conclude that future medical specialization efforts in India must involve further collaboration and coordination across sectors, and transnationally, and finally, should actively engage with issues of health systems and population health in order to achieve a measure of equity in their implementation.

Looking across the four results chapters, some broad conclusions have emerged:

1) Regulatory system: EM is one of a handful of new 'broad' specialties, the trajectories of which have also been uneven and often unpredictable. In this study, I looked at three other new specialties to draw some broad comparisons – family medicine, palliative medicine, and infectious diseases. Interestingly, EM can be considered one of the more successful fields, given its diffusion to 26 medical colleges compared with only one course in family medicine and palliative medicine, and no courses in infectious diseases. EM has also had considerably more support from the private sector and international stakeholders, including through the development of residency-style training programs outside the regulatory system. Despite the differences in their narratives, one key similarity emerges – the considerable difficulty in engaging the regulatory system in a meaningful, collaborative discussion. From advocating with MCI stakeholders, to participating in curriculum development, to seeking guidance on course implementation, specialty stakeholders appear to have often been met with opacity and resistance. The system to establish medical specialties within MCI is therefore deeply flawed, lending further empirical evidence to the findings of the 2016 Parliamentary Standing Committee report on MCI (Parliament of India, 2016). The proposed Post Graduate Medical Education Board (PGMEB) in the National Medical Commission must therefore carefully consider incorporating transparent mechanisms for dialogue, consultation and feedback.

In India, the key issue facing the development of medical specialties is 'stewardship' or the development of a 'regulatory regime that gives confidence to the public and ensures effective professional accountability' (Ham and Alberti, 2002). In the case of the medical profession, stewardship, previously defined as 'the careful and responsible management

of the well-being of the population' is the primarily attributed to Central Government, according to the Indian Medical Council Act (World Health Organization, 2000). However, due to the push and pull between the 'command and control' and self-regulatory approaches to regulation, underscored by politics, power, and money, MoHFW appeared to leave stewardship of specialty development largely in the hands of MCI, and therefore, evidently not played their overarching role adequately. Furthermore, the instances when MoHFW has stepped in, such as their advocacy for family medicine in the early 2010s, were disrupted by broader challenges in the system, such as the inability to secure interest from state governments and medical colleges in starting the course (National Health Systems Resource Centre, 2013). Such occurrences suggest that role clarity is urgently required in the regulatory system, particularly around the issue of stewardship and oversight.

2) Professional associations: Merton (1958) noted, "The association mediates between the practitioner and profession on one hand, and on the other, their social environment, which the most important parts are allied occupations and professions, the universities, the local community, and the government." The responsibilities of the profession to society depend on the level of self-regulation depends on the 'contracts' established between the profession, government and the public (Ham and Alberti, 2002). For example, in some countries, the profession is entrusted with self-regulation, in exchange for assurance that the government may keep the profession accountable to the public. However, even in instances of considerable self-regulatory powers, medical professional

associations around the world wrestle with questions of balancing their self-interest with societal needs (Blackmer, 2007).

In India, professional societies have played a variety of roles, from primarily looking out for the self-interest of the profession (the IMA of the last two decades) to associations that have partnered with government agencies on social programs (Indian Academy of Pediatrics). However, the self-regulatory nature of the medical profession, often channeled through professional councils and associations, has evolved to become highly politicized and contentious. For example, MCI is meant to be a self-regulatory body, due to its predominant composition of doctors; yet, the institution appears to have lost credibility in the eyes of many in the profession, calling its legitimacy into question.

In this context, specialist medical professional societies often play an undefined, yet critically important role. Our case highlights how the uneven relationship between MCI and MoHFW, and the lack of substantive oversight from MoHFW, has left a vacuum that new professional associations are sometimes called upon to fill. For example, professional associations in our case independently developed curricula, published standard-setting white papers, and established faculty-training programs. In this way, specialist professional associations take on certain self-regulatory functions. But what happens when professional societies do not speak with one voice? EM is a strong example of a specialty in India that arguably requires a unified front in order to evolve curriculum, engage with policymakers, and integrate with the health system more broadly. For example, both SEMI and INDUS-EM are separately pursing national-level

emergency care legislation. Many of these groups compete for seats at the table with regulatory and government agencies. A contrasting view is that medical professional societies all over the world fragment – an important example for our case is the existence of both an American College of Emergency Physicians, and the Society for Academic Emergency Medicine in the United States. However, in the US, a streamlined regulatory system, such as the American Board of Emergency Medicine, exists to help smooth over some of those differences; India does not have such a mechanism yet, and therefore, the question of fragmentation does appear to have significant consequences.

3) Diaspora and transnationalism: The colonial period saw the transfer of knowledge pertaining to biomedicine from Great Britain to India, supplemented later by foreign-based training fellowships sponsored by the Rockefeller Foundation and other groups in early- to mid-twentieth century through groups such as the Rockefeller Foundation. However, a different form of knowledge transfer high-income countries and India began to occur in the later part of the twentieth century, fueled by rapid transnational flows of people and ideas. The Indian diaspora in high-income countries, including those embedded within international epistemic communities, took on an increasingly important role in the flow of ideas, or 'social remittances' (Kapur, 2010). The example of EM appears to be a clear example of this form of social remittance, with stakeholders from different parts of the country directly transmitting concepts gained from training or working abroad and actively seeking to apply them in an Indian context.

This case study also highlighted the power held by the diaspora and other international stakeholders, largely in the form of technical expertise, but also through their networks. The involvement of these stakeholders, while seen positively by many, was also viewed with suspicion amongst some in the EM network. Furthermore, not all international stakeholders seemed willing to engage with viewpoints that contradicted their own. EM also experienced a level of involvement from international stakeholders that has not been seen in other new specialties, except for perhaps infectious diseases. In the case of that specialty, the high-level advocacy done by US-based Indian diaspora resulted in a broad specialty, against the wishes of the Indian infectious disease society, which had in parallel been advocating for a super-specialty (the specialty was later converted from a broad to super-specialty in 2011). These instances underscore a potential problem with the diffusion of specialties – diasporic engagement – a deep confidence in one's knowledge of their homeland, and a possible bias against seeking contrasting opinions. As more Indian emergency physicians secure employment in high-income countries, the engagement of the diaspora might only intensify. More transparent and collaborative partnerships must evolve to ensure that a healthy and respectful exchange, rather than transfer, of ideas occurs.

4) Health systems strengthening: The goal of any medical specialty should be to improve patient care, and ideally, health outcomes. In India, unfortunately, wealthier and/or urban populations tend to benefit much more than the poor and rural (Patel, 2015, Baru, 2003, Zachariah, 2012). Specialization in India therefore remains an urban phenomenon, available in urban-based public sector tertiary-care hospitals, but thriving in the for-profit

corporate sector (Patel, 2015, Zachariah, 2012). In highlighting that a key factor for EM's growth was its promotion by the private sector, this study case study builds on other commentaries regarding the problematic ways in which specialists are distributed across various fields in India (Ananthakrishnan et al., 2012). Corporate hospitals often actively promote specialties that are good for business. The availability of jobs in those fields generates interest among medical students and young doctors seeking higher paying jobs, and therefore, these individuals tend to seek specialization in fields that will secure their employment in these institutions. Medical colleges, both public and private, sensing the demand from these students, begin to introduce courses pertaining to those specialties. In this way, those new medical specialties that provide some financial gain to their corporate hospitals do better (emergency medicine), while those that do not offer similar rewards, never successfully diffuse across medical colleges (family medicine). This reasoning, while certainly simplistic, offers some explanation for the lack of specialties that many would say are necessary from an equity standpoint, such as family medicine, do not gain momentum.

The emphasis on postgraduate medical education as the main policy objective for specialty stakeholders must also be interrogated further. From a health systems strengthening view, a strong, wide base of primary care must be tightly linked with secondary and tertiary care (World Health Organization, 2008). However, in our case, specialty stakeholders were more concerned with strengthening tertiary care first, noting that linkages with other levels of the system would evolve. Further, urban, private sector hospitals did not see this as their role – they are meant to serve their own patients first

and foremost. The job of connecting public sector tertiary care to other levels of the system is then left primarily to government, and it is difficult to predict when and how government will take those actions. Furthermore, these efforts tend to be a patchwork of interventions, rather than a systemic change. For example, efforts to integrate specialist training (such as OB/GYN and anesthesia) into primary and secondary care through task shifting has been seen as promising, but such programs leave out the vast majority of small private sector hospitals (nursing homes) in which the majority of Indians receive their care. Mixed health systems, such as India, therefore might require alternative approaches to specialization, beyond just residency training, and such efforts need to be coordinated by a focal institution or set of institutions.

Policy implications

The findings from this dissertation have several potential policy implications for both the regulatory system for postgraduate medical education, and the development of medical specialties in India.

Clarify stewardship of the system: The lacunae in regulatory stewardship observed in this study have been discussed in other accounts of health sector regulation in India, and in other LMICs (Doherty, 2015, Baru, 2013, Sheikh et al., 2013). The absence of defined stewardship pertaining to medical specialization has created a complex regulatory environment, and one that does not sufficiently link the development of new medical specialties with public health and health system needs. The findings of this study suggest

that stewardship, and more broadly, relationships between the Government, the regulators, the professional associations, the medical colleges and the public need to be institutionalized in more transparent and equitable ways in order to restore accountability to the regulatory system. Specifically, the role of MoHFW in guiding policy pertaining to medical specialization must be strengthened, in order to ensure that specialization decisions do not remain the purview of regulatory institutions. Furthermore, more clarity is required in understanding the specific role of professional associations in the system, particularly in relation to professional councils, such as MCI (Azimova et al., 2016).

Enhance primary care and community-based approaches in specialty development: Specialization is often used synonymously with tertiary care; yet, the findings of this study seem to indicate that there is a lack of substantive engagement with the linkage between specialization and the health system, particularly in the context of rural areas. Perhaps the reasons for this problem lie in the largely private orientation of medical specialties, exacerbated by the significant disconnect between the private and public sectors in India. The key stakeholders involved in medical specialization, particularly MCI, MoHFW, medical colleges and professional societies, must take an early and active interest in discussing tangible efforts to ensure that the 'benefits' of specialization – more advanced knowledge of a particular aspect of medicine – are more tightly woven into existing systems, particularly primary care and community-based approaches. Strategies taken by some new specialty networks in India, including EM, include integration of major specialty concepts into the undergraduate curriculum, training of frontline health workers, enhanced referral systems, and community-based approaches (Alexander et al.,

2013, Evans et al., 2009, Rajagopal, 2015). Such approaches are also applicable to a wide array of LMICs that have similarly weak linkages between primary, secondary and tertiary care (World Health Organization, 2000).

Introduce systematic, transparent approaches to recognize new medical specialties: The Indian health system requires a systematic and transparent approach to determining how to recognize new medical specialties. In India, the proposed legislation to reform regulation of medical education through the National Medical Commission, does not give clear direction regarding how new medical specialties should be recognized and developed. The draft Bill implies that these decisions will be taken by the Postgraduate Medical Education Board, in consultation with the Advisory Committee of Experts, but it does not explicitly mention how the decisions will be taken, how these experts will be selected, and what the role of government will be. The findings of this study imply that developing more systematic approaches for recognizing and developing new medical specialties could remove some of the existing guesswork. The explicit mention in the Bill of the necessity of keeping 'needs of the country' in mind is laudable, but systematized processes are needed to ensure that such phrases are turned into action. The role of the government or non-medical stakeholders in these processes must also be clarified in order to ensure that there are other forms of accountability in the decision making process.

Expand stakeholders involved in developing specialty policy – The findings from this study indicate that the formal policy development process pertaining to medical specialties – curricula, faculty criteria and standard requirements – is tightly controlled by

MCI. The highly contested and opaque nature of stakeholder involvement in these processes creates considerable conflict amongst stakeholder groups, due to the privileging of certain voices over others. Further, MCI often does not play their intended role in overseeing these processes, resulting in professional groups unofficially leading the development of these policies. However, in both instances, the groups involved are primarily 'experts', and not stakeholders directly impacted by the policies, such as students and frontline health workers. Furthermore, in the absence of rigorous processes to locally develop policy, stakeholders might fall back on policies from the high-income settings in which these ideas originated, raising questions about how effectively those policies are able to translate to an Indian setting. The findings of this study suggest the need for transparent, inclusive systems for selecting stakeholders, and for broadening the types of stakeholders involved in the process to include groups more directly impacted by these decisions, such as frontline health workers (Sood, 2012).

Clarify the role of international stakeholders – In India and other LMICs, international stakeholders are playing a key role in the development of medical specialization. In many countries, the role of the diaspora in promoting specializations is adding further dimensions to these collaborations, given the existing linkages between diasporic communities and their homelands. However, few guidelines exist for these partnerships, causing confusion amongst stakeholder networks, and leading to partnerships that are actively contested within these networks. The government should evolve clear guidelines for international collaborations in order to provide clarity to stakeholders on how international actors can partner with stakeholders in India to encourage advancement and

innovation in medical specialization. Government policy appears to strongly support partnerships with the diaspora, but such collaborations are often still 'international' in character, since they often involve the stakeholder's professional institution in their country of residence. Therefore, elucidating the boundaries of these partnerships will ensure that collaborations between Indian and international stakeholders are subject to less uncertainty and tension.

Improve inspection system in medical colleges – The findings of this study indicate that the process for inspecting postgraduate training programs is highly contentious, and leads to considerable confusion, fear and suspicion amongst both the stakeholders and regulators. Numerous calls have been made for reforming the inspection system in Indian medical colleges, and this study adds further evidence of the need to clarify and streamline these systems (Parliament of India, 2016, Outlook, 2016).

Areas of future research

Quantitative approaches to researching the development of EM in India – This study was entirely qualitative in nature, but my findings suggest several areas where more quantitative methods could provide further insight into the development of EM in India. For example, social network analysis could provide a more quantitative approach to highlighting the networks linking stakeholders in this case. Survey research could also help elicit the viewpoints of different groups, such as students and graduates of the EM programs, and to obtain quantitative information on measures such as satisfaction with

their training program, and with their career trajectory. Finally, quantitative studies may also be done to better understand contextual factors driving the growth of EM, such as privatization (for example, revenues derived from emergency care).

EM in the context of globalization of biomedicine – One key area of research would be to more explicitly situate the development of emergency medicine and other new medical specialties in the broader context of medical professionalism in India and other post-colonial societies. By doing so, I can better position my research in the scholarship around the transnational processes shaping the production of expert knowledge and the dominance and globalization of biomedicine. In particular, closely linking the development of EM with understandings of the evolution of biomedicine in colonial and post-colonial India, including shifting dynamics in regulation and privatization, can add further nuance to our understanding of medical specialization in India.

Comparisons between EM and other new specializations in India – Rigorous comparisons of EM and other new medical specialties in India could lead to deeper insights into how medical specialization emerges as a broader phenomenon in India. Such analysis could also enhance our understanding of the drivers behind specialization, and the reasons why some specialties appear to be more 'successful' than others. Furthermore, conducting in-depth, robust investigations of other new specializations in both medicine and the health space could also strengthen the evidence base pertaining to medical specialization in India.

Regulation of medical education in other LMICs – Regulation in the health sector remains a neglected, yet critically important, aspect of health systems research in LMICs (Sheikh et al., 2013). The regulation of medical education in particular opens other dimensions of research that engage with issues of professional power and the role of the state. Further research on these issues in an array of contexts can help illuminate our understanding of how medical education is regulated, and can lend further insight to why current health workforce challenges, such as distribution and performance, are so pervasive.

Medical specialization in other LMICs – Despite its growing presence in LMICs, there appears to be a significant lack of social science and public health research on the evolution of medical specialization in these contexts, and the resultant impact on health systems and population health. Further research in a variety of LMIC contexts can add to our understanding of how specialization is evolving across the world by delving into the factors driving specialization, and how the process of specialization is impacting health systems. More research is also required to unpack hitherto unexplored dimensions, such as South-South collaborations in promoting specialization.

Medical professional associations in other LMICs – Medical professional associations are key stakeholders in health systems around the world (Azimova et al., 2016). Yet we know little about their evolution and role in LMICs. Further research on these associations using varied research angles, including historical and sociological approaches, will broaden and sharpen our understanding of their place in health systems.

Such research could inform approaches to strengthen their involvement in health systems strengthening.

Appendix 1 – Emergency Medicine Training Programs in the MCI System

Table 22: Status of Emergency Medicine training programs permitted by MCI

College	State	Sector	Seats	Date	Status as of December 31 2015
B J Medical College, Ahmedabad	Gujarat	Public	2	2010	Permitted – Recognized
Smt. N.H.L.Municipal Medical College, Ahmedabad	Gujarat	Public	2	2010	Permitted – Recognized
Narayana Medical College, Nellore	Andhra Pradesh	Private	2	2011	Permitted – Eligible for Recognition – Not recognized
Medical College, Baroda	Gujarat	Public	1	2011	Permitted – Recognized
St. Johns Medical College, Bangalore	Karnataka	Private	1	2011	Permitted – Eligible for Recognition – Not recognized
Vydehi Institute Of Medical Sciences & Research Centre, Bangalore	Karnataka	Private	2	2011	Permitted and Recognized
P E S Institute Of Medical Sciences and Research, Kuppam	Andhra Pradesh	Private	2	2012	Permitted – Eligible for Recognition – Not recognized
S S Institute of Medical Sciences& Research Centre, Davangere	Karnataka	Private	3	2012	Permitted – Eligible for Recognition – Not recognized
Academy of Medical Sceiences,Pariyaram, Kannur	Kerala	Private	2	2012	Permitted – Eligible for Recognition – Not recognized
Amrita School of	Kerala	Private	2	2012	Permitted – Eligible for Recognition – Not

Medicine, Elamkara, Kochi					recognized
Government Medical College, Kozhikode, Calicut	Kerala	Public	2	2012	Permitted – Eligible for Recognition – Not recognized
Jubilee Mission Medical College & Research Institute, Thrissur	Kerala	Private	2	2012	Permitted – Eligible for Recognition – Not recognized
Padmashree Dr. D.Y.Patil Medical College, Navi Mumbai	Maharashtra	Private	2	2012	Permitted – Eligible for Recognition – Not recognized
Vinayaka Missions Kirupananda Variyar Medical College, Salem	Tamil Nadu	Private	2	2012	Permitted – Eligible for Recognition – Not recognized
Kamineni Institute of Medical Sciences, Narketpally	Telangana	Private	2	2012	Permitted – Eligible for Recognition – Not recognized
Gauhati Medical College, Guwahati	Assam	Public	2	2013	Permitted – Not Eligible for Recognition
Kempegowda Institute of Medical Sciences, Bangalore	Karnataka	Private	2	2013	Permitted – Not Eligible for Recognition
Mahatma Gandhi Missions Medical College, Navi Mumbai	Maharashtra	Private	2	2013	Permitted – Not Eligible for Recognition .
Sri Ramachandra Medical College & Research Institute, Chennai	Tamil Nadu	Private	2	2013	Permitted – Not Eligible for Recognition
Sri Venkateswara Institute of Medical Sciences,	Andhra Pradesh	Public	2	2014	Permitted – Not Eligible for Recognition

Tirupati					
Government Medical College, Surat	Gujarat	Public	2	2014	Permitted – Not Eligible for Recognition
JJM Medical College, Davangere	Karnataka	Private	3	2014	Permitted – Not Eligible for Recognition
JSS Medical College, Mysore	Karnataka	Private	2	2014	Permitted – Not Eligible for Recognition .
M S Ramaiah Medical College, Bangalore	Karnataka	Private	2	2014	Permitted – Not Eligible for Recognition
Padmashree Dr. D Y Patil Medical College, Pimpri, Pune	Maharashtra	Private	2	2014	Permitted – Not Eligible for Recognition
Bharati Vidyapeeth University Medical College, Pune	Maharashtra	Private	1	2015	Permitted – Not Eligible for Recognition

Table 23: Colleges denied permission by Medical Council of India to initiate EM courses (2010 – 2015)

Medical college	Date of decision by MCI	Notes
Konaseema Institute of Medical Sciences & Research Foundation, Amalapuram	November 5 2014	Denied permission
S. Nijalingappa Medical College & HSK Hospital & Research Centre	Dec 23 2014	Denied permission
Era's Lucknow Medical College & Hospital, Lucknow	November 11 2014	Denied permission
A.J. Institute of Medical Sciences & Research Centre, Mangalore	November 11 2014	Denied permission
Pushpagiri Institute of Medical Sciences & Research Centre, Tiruvalla (Kerala)	November 5 2014	Denied permission despite repeated compliance visits
Rajah Muthiah Medical College, Annamalainagar	November 5 2014	Denied permission
Dr. Vasantrao Pawar Medical College Hospital & Research Centre, Nashik,	April 9 2014	Denied permission
Sher-I-Kashmir Institute of Medical Sciences, Srinagar	Feb 12 2014	Denied permission
Sri Devaraj Urs Medical College, Kolar	Feb 6 2014	Denied permission

Appendix 2 – Interview Guides

Interview Guide #1

National stakeholders

Date:
Time:
Location:
Duration:

Name:
Organization:
Years in the Organization:
Title:

Consent

- Request oral consent to participate in the study
- Request to turn on audio recorder

Interviewer Note: This guide consists of all interview questions related to the aims of the study. These questions are meant to be covered over a series of interviews. In the event that only one interview is possible with an informant, the interviewer will prioritize certain questions based on the experience and expertise of the informant.

Questions

Agenda Setting/Context

1. Please tell me about how you first got involved with establishing emergency medicine in India.
2. Could you describe the **historical context** in which emergency medicine developing as a medical specialty in India?
    - In your view, how did the medical field evolve and change during the period in which emergency medicine was being introduced into India? [PROBE: corporatization, increase in health care costs, natural and manmade disasters]
        i. *How do you think patient expectations towards clinical services in India?*
        ii. *How have patient expectations evolved around emergency care?*
        iii. *How has the rise of large for-profit hospitals influenced the story of emergency medicine in India?*

- Do you think the development of emergency medicine as a specialty in other low- and middle-income countries influenced the emergence of the field in India? If so, how?
- Were there any specific issues in the broader political or social environment that led to the development of emergency medicine as a specialty in India?

3. I want to turn to the history of EM in the context of the **Medical Council of India and the University Grants Commission**.
    - MCI had recognized EM as a specialty in the 1970s. How active was the specialty at that time?
    - What were some of the reasons for emergency medicine being taken off the list of postgraduate specialties approved by MCI in 2000?
    - Could you explain some of the reasons why recognition with UGC was sought in 2000? [PROBE: actors, reasons for recognition, relationship with MCI]
4. I am now going to turn to the **actors** who promoted emergency medicine in India.
    - Who were some of the first individuals or organizations to promote emergency medicine in India? [PROBE: 1970s onwards, practitioners, academics, NGOs]
    - Which other individuals/organizations also got involved during this process?
    - How would you describe the collaboration amongst these individuals/organizations?
    - What did international stakeholders bring to these discussions? How do you think they influenced the development of emergency medicine?
    - Who were the individuals who took on a leadership role in this effort? How would you describe their impact?
    - What organizations took a role in coordinating these efforts? Can you comment on how successful or unsuccessful they were?
    - Tell me about the role of grassroots organizations in emergency medicine in India.
    - How did the actors involved in promoting the field change over this period? Which actors entered and left the landscape? [PROBE: SEMI, INDUS, reasons for the split]
        - For INDUS stakeholders: An INDUS-EM document included the term "Non Colonial Model" regarding the basis of the partnership. Could you elaborate on what that means?
        - Similarly, what is the "Academic Institutional Partnership Ideology"?
    - Who did not participate in the discussions around promoting emergency medicine that you think should have? Why do you think this was the case?
    - Were there individuals who were resistant to the idea of emergency medicine as an academic medical specialty? If so, who were these individuals, and what were the reasons for their opposition? [PROBE: MCI]

5. What **events** were important in the development of emergency medicine? Why were these events important? [PROBE: 1999 SEMI conference, other meetings and conferences]
    - What were some outcomes of the first SEMI conference in 1999?
    - We had talked earlier about the discussions amongst actors when advocating for the specialty. Could you describe the settings in which these discussions typically took place? [PROBE: invited, closed, open spaces]
6. How did stakeholders come to **recognize** that there was a problem with emergency care in India?
    - What are some indicators that have been used or are currently used to monitor emergency care in India?
    - What role did newspapers or other forms of media, such as television, play in highlighting the challenges with emergency care?
    - Are there other forms of data that are used to communicate the burden to policymakers? [PROBE: personal stories, qualitative data, imagery]
    - Are there any studies looking at the effectiveness or feasibility of emergency medicine as an intervention to improve emergency care?
7. Why did the **idea** of emergency medicine as a medical specialty gain importance in your view?
    - When discussions around introducing emergency medicine to India began, could you describe your thinking around the importance of emergency medicine as a medical specialty?
    - What do you think are some of the benefits of having emergency medicine as a specialty? What are some of the drawbacks? [PROBE: primary v. tertiary levels of care]
    - What role can specialized emergency medicine play in strengthening the health system? For low-resource populations?
    - What were some of the other ideas considered for improving emergency care in India?
    - Did any of the people involved have divergent opinions on the need for emergency medicine? If so, how were those opinions divergent?
    - What were some of the main points that stakeholders used when advocating for the specialization of emergency medicine to policymakers?
8. How were advocacy and promotion activities **financed**? [PROBE: institutions, corporate sponsors, individuals]

Policy Formulation

9. Can you tell me about your **experience** seeking formal recognition for emergency medicine as a medical specialty with MCI?
    - Where did you seek guidance on how to establish a medical specialty?
    - Did you look to the example of other medical specialties gaining recognition to guide your efforts? If so, which medical specialties did you look to and why?

- Could you discuss the decision to approach MCI regarding recognition for the medical specialty rather than NBE? [PROBE: advocacy for certain positions, negotiation for positions]
- How did stakeholders come to choose the MD program, rather than the DM program? What about inclusion in the undergraduate curriculum? [PROBE: advocacy for certain positions, negotiation for positions]
- Which organization or individual was first approached to officially recognize emergency medicine as a medical specialty?
- At what point was the Medical Council of India engaged?
- Can you describe your first meeting with MCI representatives on this topic?

10. I'd like to turn to the **process** of seeking formal recognition from MCI.
    - Could you describe the overall process of negotiating with MCI?
    - When did stakeholders first submit an application for recognition of EM as a specialty with MCI?
    - Was there a formal meeting (or a series of meetings) with MCI to discuss the policy? Who was invited to this meeting?
    - How long did these meetings often take? Where did they take place?
    - How were these meetings typically run? [PROBE: moderator, agenda, timeliness]
    - Did MCI consult with other stakeholders during the process? (PROBE: MoHFW, Indian Medical Association]
        - What in your view was the impact of those consultations on MCI's approach?
11. We have previously discussed the **actors** who were involved in promoting emergency medicine in the country.
    - Which actors were primarily involved in the policy formulation process? [PROBE: institutions, individuals, international stakeholders]
    - Which actors were supportive of the formulation and adoption of the EM policy? Which actors resisted the adoption of the policy?
    - Who was not a part of the policy formulation process that you think should have been?
    - Who specifically negotiated with MCI? How they come to be the individuals to do so?
    - Apart from MCI, were other government stakeholders involved? [PROBE: Ministry of Health, National Board of Examinations, State Governments]
12. I now want to turn to the **content** of the policy.
    - Could you describe some of the deliberations that took place in deciding the content of the policy? [PROBE: Need for the policy, MD v. DM programs]
    - Were any alternatives suggested? Can you think of certain actors who would have benefited from those alternatives?
    - What was ultimately produced as a policy by this process? Could you describe the process of drafting this policy?
    - What would you have liked to see in the policy that was not included?

13. What was **different** about MCI in 2009 as compared to 2000 when individuals had advocated for inclusion? {PROBE: leadership, administrative staff, political context]
    - How has your relationship with MCI evolved over time?
14. While negotiating with MCI, what steps were taken to **prepare** for establishing the specialty once formal approval had been achieved? [PROBE: institutions applying for permission to run programs, curriculum development, faculty development]
15. What **financial resources** were allocated to establishing the specialty by MCI? By other stakeholders?

Implementation

16. Please describe what happened after MCI formally approved EM. What were the **first steps** taken? [PROBE: Selecting first institutions, curriculum development, system development]
17. How does MCI **oversee** the implementation of EM training?
18. How did your involvement **change** following the formal recognition of the specialty?
19. There are two **organizations** developing standards for academic training – SEMI and INDUS. How are their processes similar? How are they different? What do you think is the impact of having two separate groups working on training?
20. There appear to be three broad categories of regulation for training programs – those covered by MCI, those covered by NBE and those that are not recognized in an official capacity in India. I would like to ask you some questions about this system of **regulation**.
    - How has the current system for regulating specialties impacted the development of emergency medicine in India?
    - Do the processes for establishing the specialty differ depending on the regulatory agency involved? [PROBE: curriculum, faculty development, examinations, certifications, job placements]
21. Were there discussions on how to integrate emergency medicine into the broader **emergency care system** in India? What specific actions were taken to achieve this vision? [PROBE: discussion with pre-hospital stakeholders, rural access policies]

Training Programs

22. How did **academic institutions** prepare for their EM programs?
    - Who were the stakeholders involved in this process? [PROBE: National, international, government]
    - How have these stakeholders influenced the programs?
    - How are the MD training programs in emergency medicine different from the MD programs of other newer specialties?
23. How do academic institutions **finance** the establishment and running of these programs?

24. What are the **first jobs** that students typically have after graduating from an EM program?
    - How long do students typically take in securing employment?
    - In your view, are students trying to secure employment in high-income countries? If so, what do you think is the impact of this trend?
25. What are the **roles** of graduates in their places of employment? (PROBE: management, patient care, preparedness, research)
    - What are some impacts of their training on the overall functioning of the ED?

Impact and Lessons Learnt

26. In wrapping up, I want to ask you a few questions about the impact and the lessons learnt from this experience.
    - What have you learnt from this process of developing EM as a specialty in India?
    - What impact do you think this specialty will have in India?
        i. How do you think the development of emergency medicine as a specialty has influenced the **health system** in India? [PROBE: rural areas, poor households]
    - What do you think are the strengths and weaknesses of the current approach to establishing and regulating specialties? How can this process be strengthened going forward?
    - Finally, could you share your ideas for policies that would further support the development of the field of emergency medicine in India?

Interview Guide #2

Semi-structured interview guide: International stakeholders

Questions

Agenda Setting/Context

1. What type of work does your organization do in the field of emergency medicine?
2. Which countries do you currently work with to promote emergency medicine?
3. Please tell me about how you first got involved with establishing emergency medicine in India.
4. Could you describe the **historical context** in which emergency medicine developed as a medical specialty in India?
    - In your view, how did the medical field evolve and change during the period in which emergency medicine was being introduced into India? [PROBE: corporatization, increase in health care costs, natural and manmade disasters]
        i. How do you think patient expectations towards clinical services in India?

    ii. *How have patient expectations evolved around emergency care?*
    iii. *How has the rise of large for-profit hospitals influenced the story of emergency medicine in India?*
  - Do you think the development of emergency medicine as a specialty in other low- and middle-income countries influenced the emergence of the field in India? If so, how?
  - Were there any other specific issues in the broader political or social environment that led to the development of emergency medicine as a specialty?
5. I am now going to turn to the **actors** who promoted emergency medicine in India.
  - Who were some of the first individuals or organizations to promote emergency medicine in India? [PROBE: practitioners, academics, NGOs]
  - Which other individuals/organizations also got involved during this process? [PROBE: AAEMI, INDUS, Indo-UK Partnership]
  - How would you describe the relationship amongst these individuals/organizations?
  - Who were the individuals who took on a leadership role in this effort? How would you describe their impact?
  - What organizations took a role in coordinating these efforts? Can you comment on how successful or unsuccessful they were?
  - Tell me about the role of grassroots organizations in emergency medicine in India.
  - How did the actors involved in promoting the field change over this period? Which actors entered and left the landscape? [PROBE: SEMI, INDUS]
  - Who did not participate in the discussions around promoting emergency medicine that you think should have? Why do you think this was the case?
  - Were there individuals who were resistant to the idea of emergency medicine as an academic medical specialty? If so, who were these individuals, and what were the reasons for their opposition? [PROBE: MCI]
6. I want to turn specifically to the role of **international actors** in the development of emergency medicine in India.
  - In your view, which international actors have been influential in the evolution of emergency medicine in India? Why do you think so? [PROBE: INDUS-EM, AAEMI, IFEM, CDC, NIH]
  - Who were some international actors who wanted to play a bigger role but did not? Why have they not been successful?
  - How did the development of emergency medicine in India differ from other countries? How has it been similar?
  - What has been the role of individuals of Indian origin in this story? Do you think they have been particularly important? Why or why not?
7. What **events** were important in the development of emergency medicine? Why were these events important? [PROBE: 1999 SEMI conference, other meetings and conferences]
  - What were some outcomes of the first SEMI conference in 1999?

- We had talked earlier about the discussions amongst actors when advocating for the specialty. Could you describe the settings in which these discussions typically took place? [PROBE: invited, closed, open spaces]
- Were there international conferences that you felt were important to the development of specialty in this timeframe?

8. How did stakeholders come to **recognize** that there was a problem with emergency care in India?
    - What are some indicators that have been used or are currently used to monitor emergency care in India?
    - What role did newspapers or other forms of media, such as television, play in highlighting the challenges with emergency care?
    - Are there other forms of data that are used to communicate the burden to policymakers? [PROBE: personal stories, qualitative data, imagery]
    - Are there any studies discussing the effectiveness or feasibility of emergency medicine as an intervention to improve emergency care?
9. Why did the **idea** of emergency medicine as a medical specialty gain importance in your view?
    - When discussions around introducing emergency medicine to India began, could you describe your thinking around the importance of emergency medicine as a medical specialty?
    - What do you think are some of the benefits of having emergency medicine as a specialty? What are some of the drawbacks? [PROBE: primary v. tertiary levels of care]
    - What role does specialized emergency medicine play in strengthening the health system? For low-resource populations?
    - What were some of the other ideas considered for improving emergency care in India?
    - Did any of the people involved have divergent opinions on the need for emergency medicine? If so, how were those opinions divergent?
    - What were some of the main points that stakeholders used when advocating for the specialization of emergency medicine to policymakers?
10. How were advocacy and promotion activities **financed**? [PROBE: institutions, corporate sponsors, individuals]

Policy Formulation

11. In the case of emergency medicine in India, what was your involvement in gaining recognition from MCI?
12. If you were involved in engaging policymakers, I would like to ask you some specific questions on **your experiences**.
    - Where did you seek guidance on how to establish a medical specialty?
    - Did you look to the example of other medical specialties gaining recognition to guide your efforts? If so, which medical specialties did you look to and why?

- Could you discuss the decision to approach MCI regarding recognition for the medical specialty rather than NBE?
- How did stakeholders come to choose the MD program, rather than the DM program? [PROBE: advocacy for certain positions, negotiation for positions]
- Which organization or individual was first approached to officially recognize emergency medicine as a medical specialty?
- At what point was the Medical Council of India engaged?
- Can you describe your first meeting with MCI representatives on this topic?

13. I'd like to turn to the **process** of seeking formal recognition from MCI.
    - Could you describe the overall process of negotiating with MCI?
    - When did stakeholders first submit an application for recognition of EM as a specialty with MCI?
    - Was there a formal meeting (or a series of meetings) with MCI to discuss the policy? Who was invited to this meeting?
    - How long did these meetings often take? Where did they take place?
    - How were these meetings typically run? [PROBE: moderator, agenda, timeliness]
    - Did MCI consult with other stakeholders during the process? (PROBE: MoHFW, Indian Medical Association]
        - What in your view was the impact of those consultations on MCI's approach?
    - In your experience, how are these processes different from other LMICs? From the country in which you practice?
14. We have previously discussed the **actors** who were involved in promoting emergency medicine in the country.
    - Which actors were primarily involved in the policy formulation process? [PROBE: institutions, individuals, international stakeholders]
    - Which actors were supportive of the formulation and adoption of the EM policy? Which actors resisted the adoption of the policy?
    - Who was not a part of the policy formulation process that you think should have been?
    - Who specifically negotiated with MCI? How they come to be the individuals to do so?
    - Apart from MCI, were other government stakeholders involved? [PROBE: Ministry of Health, National Board of Examinations, State Governments]
15. I now want to turn to the **content** of the policy.
    - Could you describe some of the deliberations that took place in deciding the content of the policy? [PROBE: Need for the policy, MD v. DM programs]
    - Were any alternatives suggested? Can you think of certain actors who would have benefited from those alternatives?
    - What was ultimately produced as a policy by this process? Could you describe the process of drafting this policy?
    - What would you have liked to see in the policy that was not included?

16. What was different about MCI in 2009 as compared to 2000 when individuals had advocated for inclusion? {PROBE: leadership, administrative staff, political context]
    - How has your relationship with MCI evolved over time?
17. While negotiating with MCI, what steps were taken to **prepare** for establishing the specialty once formal approval had been achieved? [PROBE: institutions applying for permission to run programs, curriculum development, faculty development]
18. Has your organization offered to provide any **financial resources** for implementing the development of the specialty? What about technical assistance?
19. Do you know if **financial resources** were allocated to establishing the specialty by MCI? By other stakeholders?

Policy Implementation

20. Please describe what happened after MCI formally approved EM? What were the **first steps** taken? [PROBE: Selecting first institutions, curriculum development, system development]
21. How did your involvement **change** following the formal recognition of the specialty?
22. There are two **organizations** developing standards for academic training – SEMI and INDUS. How are their processes similar? How are they different? What do you think is the impact of having two separate groups working on training?
    - How do you think international participants decide which group to work with?
23. There appear to be three broad categories of regulation for training programs – those covered by MCI, those covered by NBE and those that are not recognized in an official capacity in India. I would like to ask you some questions about this system of **regulation**.
    - How has the current system for regulating specialties impacted the development of emergency medicine in India?
    - Do the processes for establishing the specialty differ depending on the regulatory agency involved? [PROBE: curriculum, faculty development, examinations, certifications, job placements]
24. Were there discussions on how to integrate emergency medicine into the broader **emergency care system** in India? What specific actions were taken to achieve this vision? [PROBE: discussion with pre-hospital stakeholders, rural access policies]

Training Programs

25. How did **academic institutions** prepare for their EM programs?
    - Who were the stakeholders involved in this process? [PROBE: National, international, government]
    - How have these stakeholders influenced the programs? [PROBE: Teaching style, curriculum, faculty]

- Do you currently work with a training institute on their EM program? If so, what is your role? [PROBE: resources, technical assistance]

26. What are the **roles** of graduates in their places of employment? (PROBE: management, patient care, preparedness, research)
    - What are some impacts of their training on the overall functioning of the ED?
    - Do you find more Indian EM graduates in your home country? What do you think is the impact of this trend?

Impact and Lessons Learnt

27. In wrapping up, I want to ask you a few questions about the impact and the lessons learnt from this experience.
    - What have you learnt from this process of developing EM as a specialty in India?
    - What impact do you think this specialty will have in India?
        - How do you think the development of emergency medicine as a specialty has influenced the **health system** in India? [PROBE: rural areas, poor households]
    - Finally, could you share your ideas for policies that would further support the development of the field of emergency medicine in India?

Interview Guide #3

Students and graduates

Questions

1. What was your **motivation** for pursuing emergency medicine as a specialty?
2. When did you begin **training** with your institution? How many students were with you in your program?
3. Why did you **choose** this training program?
    - Why did you choose this program over other types of training programs? [PROBE: MD, MCEM, other private sector courses]
    - How have you financed your postgraduate training? [PROBE: admission fees, annual fees, scholarships]
4. Please **describe** this training program. [PROBE: coursework, hands-on training, teaching, research]
    - What certifications are you required to take to complete your training in emergency medicine?
    - How often are you required to retake those examinations?
    - What in your opinion were the strengths of the training program?
    - What would you consider as the weaknesses of the program?
    - Are there any mechanisms to collect student or alumni feedback on the training program? If so, what are they?

5. How do you think **international practitioners and/or organizations** influence EM programs?
    - What do you think are the strengths of having international practitioners/organizations as collaborators on this program?
    - What are some of the challenges?
6. How does the emergency medicine training program **differ** from other postgraduate programs at your institution?
7. How does this program **differ** from other types of training programs? [PROBE: Short courses, private sector programs]
8. What kind of **jobs** are you looking to get, or have gotten, after completing this program?
    - What kinds of roles have you taken on, or wish to take on? [PROBE: Patient care, management, preparedness]
    - How have other health workers reacted to your presence? [PROBE: resistance]
9. In your view, what role does emergency medicine play in improving emergency care in the **health system**?
    - Have you implemented or participated in any public health programs related to emergency care?
    - If yes, can you describe some examples from your experiences that illustrate your efforts in public health?
10. What are your **future plans** with regards to emergency medicine?
    - Do you have plans to obtain employment abroad? If so, why?
11. Finally, could you share your **ideas** to further strengthen the state of emergency care in India?

Interview Guide #4

Training program managers

Questions

1. How long have you worked with your organization?
2. What is your role in your institution's emergency medicine training program?
3. Were you involved with the advocacy efforts to recognize emergency medicine as a medical specialty by MCI?
4. Please describe the **history** of your training program.
    - When did your program begin?
    - How many students do you train each year? How many students have graduated from your program?
    - How have other departments reacted to the introduction of EM?
    - Did you discuss the nature of the training program with potential employers of your graduates? If so, how did those discussions impact the program?
5. How did your institution **prepare** for its EM program?

- Who were the stakeholders involved in this process? [PROBE: SEMI, INDUS, international actors]
- What support was available to your institution from these actors?
- How do you think international practitioners and/or organizations influenced this EM program?
- How did the formal recognition of EM by the Medical Council of India influence this program?
- How is your program financed? [PROBE: institution, international actors, students, employers, industry]
    i. Does your Emergency Department have the adequate infrastructure to implement this training program? [PROBE: financing, industry, institution]
    ii. How would you describe the financial stability of your program? [PROBE: loss, breaking even, profit]

6. What **government organizations** are responsible for the oversight of this program? [PROBE: MCI, NBE, State Medical Councils, MoHFW]
    - How do you engage with these organizations?
    - Can you describe some of the aspects of this relationship that you find most beneficial? What about the most challenging?
7. Please describe your **training program**. [PROBE: coursework, competencies, practical training, teaching, research]
    - Does this program differ from other training programs at this institution? If so, how?
8. How did you meet the **faculty** requirements for your training program? [PROBE: faculty from other specialties, international actors]
9. How did you develop the **curriculum** for your program?
    - Who are the responsible actors in curriculum development?
    - Who do you think should be involved in this process who currently is not? Why is that so?
    - Is there an oversight process by an external group?
    - What further support would have you have liked in this process?
10. If your training institute works closely with an **international partner** on implementing the program, I would like to ask you some specific questions.
    - How did you start working with this partner?
    - Could you describe your collaboration with this partner? What types of roles has the international partner taken on?
    - How often do individuals from the collaborating institute visit your program?
11. What are some of the **impacts** of having EM as a specialty in this institute?
    - How has the management of emergency care changed here?
    - Has there been an effort to engage with other institutes and/or health centers? [PROBE: rural facilities, other medical colleges, hospitals]
12. What do **students** typically do on graduating from the program?
    - How do you think the presence of these graduates is influencing their places of work? [PROBE: Patient care, management, preparedness]

- How have other health workers in these work settings reacted to the presence of these trained providers?

13. How do you think the development of emergency medicine as a specialty has influenced the **health system** in India? [PROBE: rural areas, poor households]
14. Finally, could you share your **ideas** for strengthening the field of emergency medicine in India?

Interview Guide #5

Government stakeholders

Questions

Agenda Setting/Context

1. Which institutions are involved in regulating postgraduate education in India? [PROBE: roles of institutions, relationship between institutions]
2. How does the Medical Council of India make decisions regarding the formal recognition of medical specialties in India?
    - What is the typical process for decisions regarding formal recognition of medical specialties?
    - Who are the important people in making decisions about formal recognition of specialties? [PROBE: MCI, institutions, associations, NBE, MoHFW]
3. I now want to turn to the example of emergency medicine in India.
    - When did you first become aware of the interest in making emergency medicine a formally recognized specialty? Which stakeholders had expressed this interest?
    - Emergency medicine had been included in the list of recognized specialties from the 1970s onwards, but was removed in 2000. Could you explain why this occurred?
    - Could you describe some of the reasons why some emergency medicine stakeholders pursued recognition with the UGC in 2000?
4. Why did the idea of emergency medicine as a medical specialty gain importance in your view?
    - When discussions around introducing emergency medicine to India began, could you describe your thinking around the importance of emergency medicine as a medical specialty?
    - What do you think are some of the benefits of having emergency medicine as a specialty? What are some of the drawbacks? [PROBE: primary v. tertiary levels of care]
    - What role can specialized emergency medicine play in strengthening the health system? For low-resource populations?

Policy Formulation

5. I'd like to turn to the process of formally recognizing emergency medicine as a specialty.
    - When did stakeholders first submit an application for recognition of EM as a specialty with MCI?
    - Could you tell me more about the negotiations that took place regarding emergency medicine? [PROBE: arguments for and against specialization, resistance]
    - Was there a formal meeting (or a series of meetings) with EM stakeholders to discuss the policy? Who was invited to this meeting?
    - How long did these meetings often take? Where did they take place?
    - How were these meetings typically run? [PROBE: moderator, agenda, timeliness]
    - Which other actors were consulted during the process? (PROBE: MoHFW, UGC, Indian Medical Association]
        - What in your view was the impact of those consultations?
6. I am now going to ask you some questions about the people who were involved in this process.
    - Which actors were primarily involved in the policy formulation process? [PROBE: institutions, individuals, international stakeholders]
    - Which actors were supportive of the formulation and adoption of the EM policy? Which actors resisted the adoption of the policy?
    - Who was not a part of the policy formulation process that you think should have been?
7. What were the reasons behind the decision to formally approve the specialty in 2009?
8. Were any steps taken to prepare for establishing the specialty once formal approval had been achieved? [PROBE: institutions applying for permission to run programs, curriculum development, faculty development]
9. Were any financial resources allocated to establishing the specialty by MCI? By other stakeholders?

Policy Implementation

10. Please describe what happened after MCI formally approved EM. What were the first steps taken? [PROBE: Selecting first institutions, curriculum development, system development]
11. What has MCI's role been in the development of the specialty? [PROBE: curriculum, faculty development, examinations]
12. Were there discussions on how to integrate emergency medicine into the broader emergency care system in India? What specific actions were taken to achieve this vision? [PROBE: discussion with pre-hospital stakeholders, rural access policies]

Training Programs

13. How has MCI been involved with the establishment of training programs in emergency medicine? [PROBE: Inspections, approving/denying applications, revoking permissions]
14. Do you think the pace of developing training programs has been adequate? Why or why not?

Impact and Lessons Learnt

15. In wrapping up, I want to ask you a few questions about the impact and the lessons learnt from this experience.
    - What impact do you think this specialty will have in India?
        - How do you think the development of emergency medicine as a specialty has influenced the health system in India? [PROBE: rural areas, poor households]
    - What do you think are the strengths and weaknesses of the current approach to establishing and regulating specialties? How can this process be strengthened going forward?
    - Finally, could you share your ideas for policies that would further support the development of the field of emergency medicine in India?

Appendix 3 – Observation Protocol

Observation protocol guide for meetings and conference sessions

Date:
Time:
Location:
Duration:
Observer:

I will be observing:

- The number of individuals in the room
- Socio-demographic characteristics such as gender, race and age
- The organization of the physical space and seating arrangements
- Physical objects in the room, such as meeting agendas, promotional material, etc.
- How the individuals in the room address and talk to each other, including their speech and body language
- Whether there are any changes in mood or behavior during the meeting
- Who conducts the meeting (the moderators) and how they relate to other participants
- How the moderators manage any conflict that arises during the meeting
- The flow of the discussion, including deviations from official agenda items
- The content of the discussion taking place between participants
- Points of agreement and conflict in the discussion
- How the meeting is concluded and if/how action items are assigned
- The nature of interactions between participants before and after the meeting, and during any breaks.

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ZINK, B. 2006. *Anyone, Anything, Anytime: A History of Emergency Medicine* Philadelphia, Mosby, Inc.

Curriculum Vitae

Date of Birth: August 17, 1984
Place of Birth: Chicago, IL

EDUCATION

Johns Hopkins Bloomberg School of Public Health Baltimore, MD
August 2012 – May 2017 (Expected)
PhD Candidate – Health Systems, Department of International Health

Status: Final Oral Examination Scheduled – March 13, 2017
Dissertation: "The Evolution of Emergency Medicine as an Academic Specialty in India: A Policy Analysis"
Committee: Dr. Sara Bennett (Primary Advisor), Dr. Adnan Hyder, Dr. Randall Packard, Dr. Asha George, Dr. Rama Baru

Columbia University, Mailman School of Public Health
New York, NY Master of Public Health – Sociomedical Sciences and Global Health
August 2007 – May 2009

Northwestern University Evanston, IL
September 2002 – June 2006
Bachelor of Arts – Major: History; Minor: Global Health; Concentration: African Studies

HONORS AND AWARDS

- Junior Research Fellowship, American Institute of Indian Studies (Jawaharlal Nehru University, 2015–2016)
- Emerging Voices for Global Health (Health Systems Global, 2016)
- Health Systems Program Award in Doctoral Research (Johns Hopkins University, 2014–2015)
- Global Health Establishment Field Placement Award – Pakistan (Johns Hopkins University, 2013)
- Odd Fellows Educational Grant (Odd Fellows of Pennsylvania, 2013–2014, 2014–2015, 2015–2016, 2016–2017)
- Excellence in Masters Integrated Project (Columbia University, 2009)
- J. William Fulbright Foreign Scholarship (University of Ghana, 2006–2007)
- Herskovits Undergraduate Research Fellowship in African Studies (Northwestern University, 2006)

RESEARCH AND TEACHING EXPERIENCE

Public Health Foundation of India New Delhi, India
Research Consultant July 2015 – March 2016

- Designed and implemented first policy analysis of the development of the National Knowledge Platform, a knowledge translation platform established by the Ministry of Health and Family Welfare, Government of India.
- Conducted in-depth interviews and document review in India with 21 high-level policymakers and health systems researchers in India; submitted report to the Alliance for Health Policy and Systems Research, World Health Organization.

Future Health Systems Baltimore, MD
Systematic Review Research Assistant November 2012 – November 2016

- Collaborated on systematic review of community capability in health systems research in low- and middle-income countries.
- Submitted report on findings to the UK's Department for International Development (DFID), and published findings in PLoS ONE and BMC Health Services Research.

Department of International Health, Johns Hopkins Bloomberg School of Public Health Baltimore, MD
Teaching Assistant *March 2013 - Present*

- Teaching Assistant for eight graduate-level courses, including Introduction to International Health (Onsite), Introduction for International Health (Online) and Health Systems in Low- and Middle-Income Countries, Health Systems in Low- and Middle-Income Countries (Online), Social and Behavioral Foundations in Primary Health Care (Online), Issues in Urban Health (Online).
- Tasks include lecturing, preparing and grading assignments, developing reading lists, and liaising with students.

Johns Hopkins International Injury Research Unit Baltimore, MD
Research Assistant June 2013 – Present

- Conducted first cross-country qualitative case studies of emergency medical services in Pakistan (Karachi and Lahore) and India (Gururaj).
- Coordinated and drafted Expression of Interest for the Research for Health in Humanitarian Crises grant program; received approval for full application, including seed funding of £10,000 for application process.

National Health Systems Resource Centre New Delhi, India
Practicum November 2008 – December 2008

- Designed and implemented comprehensive mixed-methods evaluation to re-design the short course training in life-saving anesthetic skills for emergency obstetric care for medical officers in Chhattisgarh.
- Researched, analyzed and documented maternal health components of state government health plans to support policy dialogue between NHSRC and state governments.

Indian Institute of Management Ahmedabad, India
Practicum, Center for Management of Health Services July 2008 – October 2008

- Initiated and executed the first comprehensive evaluation of a short course life-saving anesthesia training for medical officers in Gujarat.

PROFESSIONAL EXPERIENCE

Last Mile Health Columbus, OH
Consultant – Curriculum Writer January 2012 – July 2012

- Developed four training curriculum modules related to leadership, information gathering and acute health issue response for a new cadre of frontline health workers in Liberia.
- Reviewed over 100 training curricula targeting community health workers in low-resource settings.

Clinton Global Initiative Chicago, IL
CGI America Working Group Manager March 2011 – October 2011

- Planned, coordinated and executed a multi-sectoral working group for fifty executive-level participants aimed at catalyzing projects to build the U.S. healthcare workforce.
- Managed two Chicago-based team members and liaised with local partners regarding involvement in CGI America.

Division of Violence Prevention,
U.S. Centers for Disease Control and Prevention Atlanta, GA
Coordinator - Together for Girls Global Partnership February 2010 – March 2011

- Primary coordinator of partnership between ten multi-sectoral, international global health organizations.
- Prepared technical assistance package on prevention of violence against children for national-level stakeholders.

Clinton Global Initiative New York, NY
Fellow, Global Health May 2009 – October 2009

- Coordinated two high-profile partnership-building sessions on strengthening health systems and sustainable food systems for participating governments, corporations, non-profit organizations and foundations.
- Managed organizational relationships with private, non-profit and public sector CGI members.

ORAL PRESENTATIONS AND LECTURES

- Northwestern University, "Introduction to International Public Health" (Invited Speaker, February 1 2017, Evanston, IL)
- Health Systems Global Symposium, 'Power, policy and specialty development: The case of emergency medicine specialization in India" (Accepted Oral Presentation, November 2016, Vancouver, Canada)
- Northwestern University, "Introduction to International Public Health" (Invited Speaker, October 18 2016, Evanston, IL)
- King's India Institute, 'Navigating uncertain terrain: Reflections on the use of elite interviewing and observation in health policy analyses in India' (Accepted Oral Presentation, July 2016, Via Skype in London, United Kingdom)
- Jawaharlal Nehru University, 'Seminar on Doctoral Dissertation Research Methods' (Invited Speaker, October 2015, New Delhi, India)
- Aga Khan University Hospital, 'Organizational Assessment of Emergency Medical Services in Urban Centers in India and Pakistan' (Invited Speaker, July 2013, Karachi, Pakistan)
- Ferris State University, 'Improving Women's Health by Improving Health Systems - Perspectives from Ghana and India' (Invited Speaker, February 2013, Big Rapids, MI)

PUBLICATIONS AND REPORTS

- George A, Mehra V, Scott K, **Sriram V.** Synergies, strengths and challenges: findings on community capability from a systematic health systems research literature review. BMC Health Services Research, November, 2016. 16:1860
- **Sriram V**, Bennett S. Developing the National Knowledge Platform in India: A Policy and Institutional Analysis. Report submitted to the Alliance for Health Policy and Systems Research, World Health Organization, April 2016.
- **Sriram V**, Gururaj G, Razzak JA, Naseer R, Hyder AA. Comparative analysis of three pre-hospital emergency medical services organizations in India and Pakistan, Public Health. Public Health, April 2016
- **Sriram V**, Gururaj G, Hyder AA. Public-private implementation of integrated emergency response services: Case study of GVK Emergency Management and Research Institute in Karnataka, India. (In draft)

- **Sriram V**, Razzak JA, Quraishy S, Jamal MA, Hyder AA. Provision of pre-hospital emergency medical services in Karachi, Pakistan – Case study of a private, non-profit provider. (In draft)
- George A, Mehra V, Scott K, **Sriram V**. Community Participation in Health Systems Research: A Systematic Review Assessing the State of Research, the Nature of Interventions Involved and the Features of Engagement with Communities. PLoS ONE, October 2015, 10(10): e0141091
- Groen R, **Sriram V**, Kamara T, Kushner A, Blok L. Individual and community perceptions of surgical care in Sierra Leone. Topical Medicine & International Health, January 2014, 19(1), 107–116.
- Branchini C, **Sriram V**, Ray A, Scott K, Thurakal A. "One Billion Rising" at Johns Hopkins Bloomberg School of Public Health: a reflection. Reproductive Health Matters, May 2013, 21(41). 251–253.
- Mavalankar D, Callahan K, **Sriram V**, Singh P and Desai A. Qualitative Evaluation of Life Saving Anesthetic Skills Training Program for Emergency Obstetric Care in Gujarat, India. International Journal of Gynecology and Obstetrics, December 2009, 107(3), 283–288.
- Mavalankar D and **Sriram V**. Provision of Anaesthesia Services for Emergency Obstetric Care through Task Shifting in South Asia, Reproductive Health Matters, May 2009, 7(33), 21–31.
- Mavalankar D, **Sriram V,** Callahan K. Qualitative Evaluation of Life Saving Anesthetic Skills Training Program for Emergency Obstetric Care in Chhattisgarh, India. Report submitted to National Health Systems Resource Center (December 2008)
- Munoz-Laboy M, Yuo C, **Sriram V**, Weinstein H, del Aguila EV and Parker R. Negotiating Bisexual Desire and Familism: The Case of Latino/a Bisexual Young Men and Women in New York City. Culture, Health & Sexuality, April 2009, 11(3), 331–344.

OTHER WRITING

- International Health Policies – 'Post-election blues at HSG 2016' – November 2016
- Health Systems Global – 'Critiquing the Concept of Resilience' – April 2016
- Health Systems Global – 'The Power Dynamics of Elite Interviewing: Methodological Issues Considerations' – February 2014
- Health Systems Global – 'Collective Action, Social Media and Health Policy: A New Area of Health Policy and Systems Research?' – September 2014

ADDITIONAL INFORMATION

Peer Reviewer: Health Policy & Planning, Health Research Policy and Systems

Software Packages: Stata, Atlas.ti, SPSS and Raiser's Edge

Volunteer Activities: Health Systems Global – Social Sciences Thematic Working Group – Co-Lead of Power Cluster; Asha for Education, Chicago Chapter – Projects Coordinator

Languages: Tamil (Proficient), Hindi (Conversational) and French (Basic)